Open Source Used In
Petra/TRAX/Arthas RM Ipcentral 17.6

Cisco Systems, Inc.
www.cisco.com

Cisco has more than 200 offices worldwide. Addresses, phone numbers, and fax numbers are listed on the Cisco website at www.cisco.com/go/offices.

Text Part Number: 78EE117C99-1149147113
This document contains licenses and notices for open source software used in this product. With respect to the free/open source software listed in this document, if you have any questions or wish to receive a copy of any source code to which you may be entitled under the applicable free/open source license(s) (such as the GNU Lesser/General Public License), please contact us at external-opensource-requests@cisco.com.

In your requests please include the following reference number 78EE117C99-1149147113

Contents

1.1 linux-kernel 4.14.212
   1.1.1 Available under license

1.2 iproute 5.9.0-1.el8
   1.2.1 Available under license

1.3 musl 1.1.24-r0
   1.3.1 Available under license

1.4 lua-cjson 2.1.0
   1.4.1 Available under license

1.5 slang 2.3.2
   1.5.1 Available under license

1.6 util-linux 2.34.0
   1.6.1 Available under license

1.7 tar 1.32
   1.7.1 Available under license

1.8 ca-certificates 20191127-r0
   1.8.1 Available under license

1.9 libgpg-error 1.36
   1.9.1 Available under license

1.10 gdbm 1.18.1
    1.10.1 Available under license

1.11 zlib 1.2.11
    1.11.1 Available under license

1.12 c-ares 1.15.0
    1.12.1 Available under license

1.13 pam 1.3.1-14.el8
    1.13.1 Available under license
1.14 ethtool 5.2
   1.14.1 Available under license
1.15 curl 7.66.0
   1.15.1 Available under license
1.16 tcp-dump 4.9.3
   1.16.1 Available under license
1.17 selinux 2.9-5.el8
   1.17.1 Available under license
1.18 grep 3.3
   1.18.1 Available under license
1.19 shadow 4.6
   1.19.1 Available under license
1.20 c-ares 1.14.0
   1.20.1 Available under license
1.21 libxslt 1.1.33
   1.21.1 Available under license
1.22 sqlite 3.29.0
   1.22.1 Available under license
1.23 kmod 25-16.el8
   1.23.1 Available under license
1.24 systemd 239-43.el8
   1.24.1 Available under license
1.25 pax-utils 1.2.4-r0
   1.25.1 Available under license
1.26 libidn 2.2.0
   1.26.1 Available under license
1.27 file 5.37
   1.27.1 Available under license
1.28 libsodium 1.0.18
   1.28.1 Available under license
1.29 boost NA
   1.29.1 Available under license
1.30 findutils 4.6.0
   1.30.1 Available under license
1.31 parted 3.2
   1.31.1 Available under license
1.32 alpine-baselayout 3.2.0-r3
   1.32.1 Available under license
1.33 libvirt 5.5.0
1.33.1 Available under license

1.34 grpc 1.24.1
   1.34.1 Available under license

1.35 nettle 3.5.1
   1.35.1 Available under license

1.36 procps 3.3.15
   1.36.1 Available under license

1.37 zlib 1.2.3
   1.37.1 Available under license

1.38 libtls-standalone 2.9.1-r0
   1.38.1 Available under license

1.39 libxml 2.9.9
   1.39.1 Available under license

1.40 glibc 2.30
   1.40.1 Available under license

1.41 cpio 2.12
   1.41.1 Available under license

1.42 readline 7.0 10.el8
   1.42.1 Available under license

1.43 libffi 3.1-22.el8
   1.43.1 Available under license

1.44 bash 4.2.10
   1.44.1 Available under license

1.45 apk-tools 2.10.4 r3
   1.45.1 Available under license

1.46 openssl 1.1.1c
   1.46.1 Available under license

1.47 acl 2.2.53-1.el8
   1.47.1 Available under license

1.48 iptables 1.8.4-16.el8
   1.48.1 Available under license

1.49 d-bus 1.12.16
   1.49.1 Available under license

1.50 ncurses 6.1
   1.50.1 Available under license

1.51 xz 5.2.4
   1.51.1 Available under license

1.52 dnsmasq 2.83
   1.52.1 Available under license
1.53 expat 1.95.5
1.53.1 Available under license

1.54 gmp 6.1.2
1.54.1 Available under license

1.55 busybox 1.31.0
1.55.1 Available under license

1.56 cryptsetup 2.2.1
1.56.1 Available under license

1.57 nginx 0.33
1.57.1 Available under license

1.58 socat 1.7.3.3
1.58.1 Available under license

1.59 pcre 8.41
1.59.1 Available under license

1.60 gdisk 1.0.4
1.60.1 Available under license

1.61 libunistring 0.9.10
1.61.1 Available under license

1.62 kexec-tools 2.0.19
1.62.1 Available under license

1.63 unbound 1.4.22
1.63.1 Available under license

1.64 pcre 8.43
1.64.1 Available under license

1.65 gnutls 3.6.13
1.65.1 Available under license

1.66 openssh 8.0p1
1.66.1 Available under license

1.67 gzip 1.9-11.el8
1.67.1 Available under license

1.68 pkix-ssh 11.6
1.68.1 Available under license

1.69 libtomcrypt 1.17
1.69.1 Available under license

1.70 util-linux 2.34
1.70.1 Available under license

1.71 e2fsprogs 1.43
1.71.1 Available under license

1.72 popt 1.16-14.el8
1.72.1 Available under license
1.73 json-c 0.13.1
   1.73.1 Available under license
1.74 binutils 2.32.0
   1.74.1 Available under license
1.75 squashfs-tools 4.3
   1.75.1 Available under license
1.76 bind 9.11.19
   1.76.1 Available under license
1.77 libyaml 0.2.2
   1.77.1 Available under license
1.78 libssh2 1.8.2
   1.78.1 Available under license
1.79 lua 5.1.3
   1.79.1 Available under license
1.80 rsync 3.1.3
   1.80.1 Available under license
1.81 diffutils 3.7
   1.81.1 Available under license
1.82 python 3.7.8
   1.82.1 Available under license
1.83 net-tools 1.60
   1.83.1 Available under license
1.84 sed 4.2.2
   1.84.1 Available under license
1.85 tcl 8.3.4
   1.85.1 Available under license
1.86 lz4 1.9.2
   1.86.1 Available under license
1.87 policycoreutils 2.9-9.el8
   1.87.1 Available under license
1.88 sqlite 3.27.0
1.89 zlib 1.2.8
   1.89.1 Available under license
1.90 bzip2 1.0.8
1.91 fdisk 2.34.0
   1.91.1 Available under license
1.92 elfutils 0.178
   1.92.1 Available under license
1.93 libtommath 0.42.0
    1.93.1 Available under license
1.94 libnl3 3.5.0
    1.94.1 Available under license
1.95 zlib 1.2.5
    1.95.1 Available under license
1.96 gobject-introspection 1.60.2
    1.96.1 Available under license
1.97 openssh 7.9-p1
    1.97.1 Available under license
1.98 busybox 1.31.1-r9
    1.98.1 Available under license
1.99 libmicrohttpd 0.9.66
    1.99.1 Available under license
1.100 glib 2.60.7
    1.100.1 Available under license
1.101 netcat 0.7.1
    1.101.1 Available under license
1.102 libbsd 0.10.0
    1.102.1 Available under license
1.103 lighttpd 1.4.54
    1.103.1 Available under license
1.104 hd-parm 9.58
1.105 expat 2.2.8
    1.105.1 Available under license
1.106 libtirpc 1.1.4
    1.106.1 Available under license
1.107 alpine-keys 2.1 r2
1.108 csrp 1.0
    1.108.1 Available under license
1.109 libgcrypt 1.8.4
    1.109.1 Available under license
1.110 open-ldap 2.4.46-16.el8
    1.110.1 Available under license
1.111 luajit 2.1.0
    1.111.1 Available under license
1.112 libpcap 1.9.1
    1.112.1 Available under license
1.113 sshpass 1.06
1.113.1 Available under license
1.114 coreutils 8.31
   1.114.1 Available under license
1.115 iputils 20180629-6.el8
   1.115.1 Available under license
1.116 xinetd 2.3.15
   1.116.1 Available under license
1.117 libcap 2.26-4.el8
   1.117.1 Available under license
1.118 openssl 1.1.1d-r3
   1.118.1 Available under license
1.119 libsemanage 2.9-4.el8
   1.119.1 Available under license
1.120 nghttp2 1.41.0
   1.120.1 Available under license
1.121 libmnl 1.0.4-6.el8
   1.121.1 Available under license
1.122 visual-studio-runtime 14.00.24210.0
   1.122.1 Available under license
1.123 zlib 1.2.11 r3
   1.123.1 Available under license
1.124 vim 8.0.1763-15.el8
1.125 gawk 5.0.1
   1.125.1 Available under license
1.126 libusb 1.0.22
   1.126.1 Available under license
1.127 attr 2.4.48-3.el8
   1.127.1 Available under license

1.1 linux-kernel 4.14.212
1.1.1 Available under license:
   FlashPoint Driver Developer's Kit
   Version 1.0

   Copyright 1995-1996 by Mylex Corporation
   All Rights Reserved

   This program is free software; you may redistribute and/or modify it under
   the terms of either:

   a) the GNU General Public License as published by the Free Software

Foundation; either version 2, or (at your option) any later version,

or

b) the "BSD-style License" included below.

This program is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY, without even the implied warranty of MERCHANTABILITY
or FITNESS FOR A PARTICULAR PURPOSE. See either the GNU General Public
License or the BSD-style License below for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
675 Mass Ave, Cambridge, MA 02139, USA.

The BSD-style License is as follows:

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

1. Redistributions of source code must retain this LICENSE.FlashPoint
   file, without modification, this list of conditions, and the following
disclaimer. The following copyright notice must appear immediately at
the beginning of all source files:

   Copyright 1995-1996 by Mylex Corporation. All Rights Reserved

   This file is available under both the GNU General Public License
and a BSD-style copyright; see LICENSE.FlashPoint for details.

2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. The name of Mylex Corporation may not be used to endorse or promote
   products derived from this software without specific prior written
   permission.

THIS SOFTWARE IS PROVIDED BY MYLEX CORP. "AS IS" AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN
NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.
Copyright (c) 2009-2013 QLogic Corporation
QLogic Linux qlcnic NIC Driver

You may modify and redistribute the device driver code under the
GNU General Public License (a copy of which is attached hereto as
Exhibit A) published by the Free Software Foundation (version 2).

EXHIBIT A

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.
3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.
8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA

Everyone is permitted to copy and distribute verbatim copies of
this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

**GNU GENERAL PUBLIC LICENSE**

**TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION**

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the
original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.
To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program’s name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
675 Mass Ave, Cambridge, MA 02139, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it. You can use it for your libraries, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.
Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this
will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification").

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that
you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.
Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application
b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest
possible use to the public, we recommend making it free software that
everyone can redistribute and change. You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the
ordinary General Public License).

To apply these terms, attach the following notices to the library. It is
safer to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Library General Public
License as published by the Free Software Foundation; either
version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Library General Public License for more details.

You should have received a copy of the GNU Library General Public
License along with this library; if not, write to the Free
Software Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:
Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.
Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.
2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the
Program), the recipient automatically receives a license from the
original licensor to copy, distribute or modify the Program subject to
these terms and conditions. You may not impose any further
restrictions on the recipients’ exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties to
this License.

7. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Program at all. For example, if a patent
license would not permit royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS
How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:
Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

Copyright (c) 2003-2013 QLogic Corporation
QLogic Linux iSCSI Driver

This program includes a device driver for Linux 3.x.
You may modify and redistribute the device driver code under the GNU General Public License (a copy of which is attached hereto as Exhibit A) published by the Free Software Foundation (version 2).

EXHIBIT A

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.
To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.
Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.
4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is
implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

/* nicstar.c  v0.22  Jawaid Bazyar (bazyar@hypermall.com)
   * nicstar.c, M. Welsh (matt.welsh@cl.cam.ac.uk)
   * Hacked October, 1997 by Jawaid Bazyar, Interlink Advertising Services Inc.
   * http://www.hypermall.com/
   * 10/1/97 - commented out CFG_PHYIE bit - we don't care when the PHY
   * interrupts us (except possibly for removal/insertion of the cable?)
   * 10/4/97 - began heavy inline documentation of the code. Corrected typos
   * and spelling mistakes.
   * 10/5/97 - added code to handle PHY interrupts, disable PHY on
   * loss of link, and correctly re-enable PHY when link is
   * re-established. (put back CFG_PHYIE)
   *
   * Modified to work with the IDT7721 nicstar -- AAL5 (tested) only.
   *
   * R. D. Rechenmacher <ron@fnal.gov>, Aug. 6, 1997
   *
   * Linux driver for the IDT77201 NICStar PCI ATM controller.
   * PHY component is expected to be 155 Mbps S/UNI-Lite or IDT 77155;
   * see init_nicstar() for PHY initialization to change this. This driver
   * expects the Linux ATM stack to support scatter-gather lists
   * (skb->atm.iovcnt != 0) for Rx skb's passed to vcc->push.
   *
   * Implementing minimal-copy of received data:
   * IDT always receives data into a small buffer, then large buffers
   * as needed. This means that data must always be copied to create
   * the linear buffer needed by most non-ATM protocol stacks (e.g. IP)
   * Fix is simple: make large buffers large enough to hold entire
   * SDU, and leave <small_buffer_data> bytes empty at the start. Then
   * copy small buffer contents to head of large buffer.
   * Trick is to avoid fragmenting Linux, due to need for a lot of large
   * buffers. This is done by 2 things:
   * 1) skb->destructor / skb->atm.recycle_buffer
   * combined, allow nicstar_free_rx_skb to be called to
   * recycle large data buffers
   * 2) skb_clone of received buffers
* See nicstar_free_rx_skb and linearize_buffer for implementation
* details.
*
*
* Copyright (c) 1996 University of Cambridge Computer Laboratory
*
* This program is free software; you can redistribute it and/or modify
* it under the terms of the GNU General Public License as published by
* the Free Software Foundation; either version 2 of the License, or
* (at your option) any later version.
*
* This program is distributed in the hope that it will be useful,
* but WITHOUT ANY WARRANTY; without even the implied warranty of
* MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
* GNU General Public License for more details.
*
* You should have received a copy of the GNU General Public License
* along with this program; if not, write to the Free Software
* Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.
*
* M. Welsh, 6 July 1996
*
*
*/

Code in this directory written at the IDA Supercomputing Research Center carries the following copyright and license.

Copyright 1993 United States Government as represented by the Director, National Security Agency. This software may be used and distributed according to the terms of the GNU General Public License, incorporated herein by reference.

In addition to the disclaimers in the GPL, SRC expressly disclaims any and all warranties, expressed or implied, concerning the enclosed software. This software was developed at SRC for use in internal research, and the intent in sharing this software is to promote the productive interchange of ideas throughout the research community. All software is furnished on an "as-is" basis. No further updates to this software should be expected. Although updates may occur, no commitment exists.

"This software program is licensed subject to the GNU General Public License (GPL). Version 2, June 1991, available at <http:

GNU General Public License

Version 2, June 1991
Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA 02111-1307, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will
individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is included without limitation in the term "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

* a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

* b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

* a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

* b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

* c) Accompany it with the information you received as to the offer to
distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.
10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

one line to give the program’s name and an idea of what it does.
Copyright (C) yyyy name of author

This program is free software; you can redistribute it and/or modify it
under the terms of the GNU General Public License as published by the Free
Software Foundation; either version 2 of the License, or (at your option)
any later version.

This program is distributed in the hope that it will be useful, but WITHOUT
ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or
FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for
more details.

You should have received a copy of the GNU General Public License along with
this program; if not, write to the Free Software Foundation, Inc., 59
Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when
it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author Gnomovision comes
with ABSOLUTELY NO WARRANTY; for details type 'show w'. This is free
software, and you are welcome to redistribute it under certain conditions;
type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may be
called something other than 'show w' and 'show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
'Gnomovision' (which makes passes at compilers) written by James Hacker.

signature of Ty Coon, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General Public
License instead of this License.

Copyright (c) 2003-2006, Marvell International Ltd.
All Rights Reserved

This program is free software; you can redistribute it and/or modify it
under the terms of version 2 of the GNU General Public License as
This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Copyright (c) 2003-2006 QLogic Corporation

QLogic Linux Networking HBA Driver

This program includes a device driver for Linux 2.6 that may be distributed with QLogic hardware specific firmware binary file. You may modify and redistribute the device driver code under the GNU General Public License as published by the Free Software Foundation (version 2 or a later version).

You may redistribute the hardware specific firmware binary file under the following terms:

1. Redistribution of source code (only if applicable), must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistribution in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. The name of QLogic Corporation may not be used to endorse or promote products derived from this software without specific prior written permission

REGARDLESS OF WHAT LICENSING MECHANISM IS USED OR APPLICABLE, THIS PROGRAM IS PROVIDED BY QLOGIC CORPORATION "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
USER ACKNOWLEDGES AND AGREES THAT USE OF THIS PROGRAM WILL NOT CREATE OR GIVE GROUNDS FOR A LICENSE BY IMPLICATION, ESTOPPEL, OR OTHERWISE IN ANY INTELLECTUAL PROPERTY RIGHTS (PATENT, COPYRIGHT, TRADE SECRET, MASK WORK, OR OTHER PROPRIETARY RIGHT) EMBODIED IN ANY OTHER QLOGIC HARDWARE OR SOFTWARE EITHER SOLELY OR IN COMBINATION WITH THIS PROGRAM.

The files in this directory and elsewhere which refer to this LICENCE file are part of JFFS2, the Journalling Flash File System v2.

Copyright 2001-2007 Red Hat, Inc. and others

JFFS2 is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 or (at your option) any later version.

JFFS2 is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with JFFS2; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA.

As a special exception, if other files instantiate templates or use macros or inline functions from these files, or you compile these files and link them with other works to produce a work based on these files, these files do not by themselves cause the resulting work to be covered by the GNU General Public License. However the source code for these files must still be made available in accordance with section (3) of the GNU General Public License.

This exception does not invalidate any other reasons why a work based on this file might be covered by the GNU General Public License.

NOTE! This copyright does *not* cover user programs that use kernel services by normal system calls - this is merely considered normal use of the kernel, and does *not* fall under the heading of "derived work". Also note that the GPL below is copyrighted by the Free Software Foundation, but the instance of code that it refers to (the Linux kernel) is copyrighted by me and others who actually wrote it.

Also note that the only valid version of the GPL as far as the kernel is concerned is _this_ particular version of the license (ie v2, not v2.2 or v3.x or whatever), unless explicitly otherwise stated.
Linus Torvalds

----------------------------------------

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
      51 Franklin St, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users.  This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it.  (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.)  You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price.  Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have.  You must make sure that they, too, receive or can get the
source code.  And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free

Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 57
software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1.
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.
This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

Copyright (c) 2003-2014 QLogic Corporation
QLogic Linux FC-FCoE Driver

This program includes a device driver for Linux 3.x.
You may modify and redistribute the device driver code under the GNU General Public License (a copy of which is attached hereto as Exhibit A) published by the Free Software Foundation (version 2).

EXHIBIT A

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Copyright (c) 2003-2011 QLogic Corporation
QLogic Linux qlge NIC Driver

You may modify and redistribute the device driver code under the GNU General Public License (a copy of which is attached hereto as Exhibit A) published by the Free Software Foundation (version 2).

EXHIBIT A

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

1.2 iproute 5.9.0-1.el8
1.2.1 Available under license:
No license file was found, but licenses were detected in source scan.

/*
*  ________________________________
* ip_prefixlist_ionized.c - IP Prefix Lists support for ionized processes
*  ________________________________
* August 2001, Siva Yaragalla
*  ________________________________
* Copyright (c) 2001-2004, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*  ________________________________
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/ip_prefixlist_ionized.c
No license file was found, but licenses were detected in source scan.

/*-------------------------------
* IP routemap test commands
*-------------------------------
* May 2003, Tanya Shastri
*-------------------------------
* All rights reserved.
*-------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/exec_test_ip_routemap.h
No license file was found, but licenses were detected in source scan.

/* $Id$
/* $Source$
 *------------------------------------------------------------------
 * Registry for IP routing infrastructure in ION
 * 
 * September 2001, Fan Kong
 * 
 * All rights reserved.
 *------------------------------------------------------------------
 * $Log$
 *------------------------------------------------------------------
 * $Endlog$
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/iprouting_registry.h
No license file was found, but licenses were detected in source scan.

/* $Id$
 */

/* $Source$
 *------------------------------------------------------------------
 * Parse chains for router Address Family mode
 * 
 * June 2002, Donnie Savage
 * 
 * All rights reserved.
 *------------------------------------------------------------------
 * $Log$
 *------------------------------------------------------------------
 * $Endlog$
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/router_af_chain.c
No license file was found, but licenses were detected in source scan.

/*
 * exec_debug_routemap.h -- Debugging for Route-map IPC
 * 
 * July 1998, Wilber Su
 * 
 * All rights reserved.
 */
/*
 * ion_iprouting_cmd_registry.c
 *
 * September 2001, Rashmi Shrivastava
 *
 * Copyright (c) 2001, 2003, 2005-2008 by cisco Systems, Inc.
 * All rights reserved.
 *------------------------------------------------------------------
 */

/*
 * exec_debug_routemapapi.h -- Debugging for Route-map API
 *
 * May 2003, Tanya Shastri
 *
 * All rights reserved.
 *------------------------------------------------------------------
 */

/*
 * exec_show_ip_prefixlist.h -- Show IP prefix lists
 *
 * July 1997 Enke Chen
 *
 * All rights reserved.
 *------------------------------------------------------------------
 */
* Branch: FIB_branch
* 
* Revision 3.1 1997/12/17 01:46:35 enkechen
* Start with the new file.
* 
* $Endlog$
* /

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/exec_show_ip_prefixlist.h
No license file was found, but licenses were detected in source scan.

/*
*---------------------------------------------------------------
* routemap_track.h -- Route map support for tracking
* 
* March 2003 Shyan Wignarajah
* 
* All rights reserved.
*---------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/routemap_track.h
No license file was found, but licenses were detected in source scan.

/*
*---------------------------------------------------------------
* Generic prefix list support - prefix lists private header file
* 
* March 2002, Siva Yaragalla
* 
* All rights reserved.
*---------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/ip_prefixlist_private.h
No license file was found, but licenses were detected in source scan.

/*---------------------------------------------------------------
* iprouting_cmn.c
* 
* This file has global definitions common to blob and iprouting proceses.
* */
* Copyright (c) 2002-2009, 2011, 2013 by cisco Systems, Inc.
* All rights reserved.
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmnn/src/iprouting_cmnn.c
No license file was found, but licenses were detected in source scan.

/*
* iprouting_DEBUG_FLAG_BBs.h -- Debugging flag declarations for IP routing
*
* May 1993, John Bashinski
*
* Copyright (c) 1993-2011, 2013, 2015, 2018-2020 by Cisco Systems, Inc.
* All rights reserved.
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmnn/include/iprouting_debug_flags.h
No license file was found, but licenses were detected in source scan.

# $Id$
#
# iprouting.startup - ION iprouting process .startup file
#
# October, 2001, Fan Kong
#
# All rights reserved.
#
name:iprouting.iosproc
path:/sbin
feature:iprouting
level:100
envs:RLIMIT_NOFILE=65535

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmnn/src/iprouting.startup
/*
 * $Id: route_map.h,v 3.3.12.6 1996/05/04 01:22:42 wilber Exp $
 * $Source: /release/112/cvs/Xsys/iprouting/route_map.h,v $
 *----------------------------------------------------------
 * route_map.h
 *
 * Route map support data structures.
 *
 * Copyright (c) 1986-2020 by cisco Systems, Inc.
 * All rights reserved.
 *----------------------------------------------------------
 *
 * $Log: route_map.h,v $
 * Revision 3.3.12.6  1996/05/04  01:22:42  wilber
 * Branch: California_branch
 *
 * Constrained Multicast Flooding
 * - Define MOSPF hello option bit.
 *
 * Name Access List
 *
 * Revision 3.3.12.5  1996/04/16  19:02:23  rchandra
 * CSCdi54830: IP features commit
 * Branch: California_branch
 *
 * Revision 3.3.12.4  1996/04/05  03:46:42  rchandra
 * CSCdi53755: BGP: flap dampening settings not flexible enough
 * Branch: California_branch
 * - add route-map support to set flap dampening parameters
 *
 * Revision 3.3.12.3  1996/04/02  07:29:32  dkatz
 * CSCdi52277: Redistribution metric problems with IGRP/EIGRP
 * Branch: California_branch
 * Always store canonical metrics scaled for IGRP, and make EIGRP do
 * its own scaling internally. Get the scaling right in all three
 * places.
 *
 * Revision 3.3.12.2  1996/03/28  23:59:20  rchandra
 * CSCdi52098: BGP: exact keyword not accepted by route-map in community
 * match
 * Branch: California_branch
 * - fix my silly bug in handling exact community matching
 * - limit the range of valid community to 0xFFFF0000
 * - fix a cosmetic bug in show ip community-list
 *
 * Revision 3.3.12.1  1996/03/28  22:28:27  rchandra
 * CSCdi52880: BGP: generate error message for unsupported route-map
* options
* Branch: California_branch
* - generate error message when unsupported route-map option is used
* - treat confederation EBGP neighbors similar to internal neighbors in
*   best path selection
* - fix the bug in bgp_compare_med, so that during MED comparison,
*   confederation information is skipped properly
* - confederation EBGP paths should be inserted into the IP table with
*   internal distance
* - do not consider common-AS neighbors as confederation neighbors
* - during 'clear ip bgp dampening' avoid skipping paths
* - undo the patch to the radix version walker
*
* Revision 3.3 1996/02/17 01:23:27 myeung
* CSCdi49210: match tag clause does not work with static routes
* *
* Revision 3.2 1995/11/17 17:37:17 hampton
* Remove old entries from the RCS header logs.
* *
* Revision 3.1 1995/11/09 12:10:38 shaker
* Bump version numbers from 2.x to 3.x.
* *
* Revision 2.4 1995/09/25 08:31:20 tli
* CSCdi40960: ISP jumbo patch 2
* *
* Revision 2.3 1995/07/12 07:19:12 tli
* CSCdi36426: Policy routing will not disable on an interface
* - Policy routed packets were creating fastswitching cache entries.
* - That's not till _next_ release.
* - Add counters to record packet and byte count on a per route map entry
*   basis.
* - Marketing identified a catastrophic deficiency. Implemented "set ip
tos" and "set ip precedence" to cover this deficiency.
* *
* Revision 2.2 1995/07/06 23:12:41 rchandra
* CSCdi36759: BGP : Add conditional per neighbor default generation
* - add 'neighbor <x.x.x.x> default-originate route-map <tag>' command.
* *
* Revision 2.1 1995/06/07 21:10:57 hampton
* Bump version numbers from 1.x to 2.x.
* *
*------------------------------------------------------------------
*$Endlog$
/*

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/route_map.h
No license file was found, but licenses were detected in source scan.

/* $Id: ip_routing.c,v 3.2 1995/11/17 17:34:11 hampton Exp $  
 * $Source: /swtal/cherf.111/ios/sys/iprouting/ip_routing.c,v $  
 *-------------------------------------------------------------  
 * ip_routing.c -- Generic IP routing functions  
 *  
 * Mar 1995 Tony Li  
 *  
 * All rights reserved.  
 *-------------------------------------------------------------  
 * $Log: ip_routing.c,v $  
 * Revision 3.2 1995/11/17 17:34:11 hampton  
 * Remove old entries from the RCS header logs.  
 *  
 * Revision 3.1 1995/11/09 12:08:05 shaker  
 * Bump version numbers from 2.x to 3.x.  
 *  
 * Revision 2.1 1995/06/07 21:07:03 hampton  
 * Bump version numbers from 1.x to 2.x.  
 *  
 *-------------------------------------------------------------  
 * $Endlog$  
 */

Found in path(s):  
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/ip_routing.c
No license file was found, but licenses were detected in source scan.

/*-------------------------------------------------------------  
 * router_af_parse.c  
 *  
 * Route Address Family command and action definitions. Derived from  
 * router_af_chain.c  
 *  
 * May 2002, Victor Kamensky  
 *  
 * Copyright (c) 2002-2010, 2012, 2014-2016, 2019 by cisco Systems, Inc.  
 * All rights reserved.  
 *-------------------------------------------------------------  
 */

Found in path(s):  
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/router_af_parse.c
No license file was found, but licenses were detected in source scan.

/* $Id$
policylist.c - Routines to handle policy-list commands

Apr. 2000, Rex Fernando

All rights reserved.

iprouting_common.h - Basic types for IP routing (IPv4/IPv6)

Contains:
- address family enum,
- tableid type and related macros
- topoid type and related macros
- private topoid definitions and APIs
- generic non-routing ID definitions/APIs

Warning: this file should not have any dependency on other header file
except those where basic C types are defined.

June 2003, Luc Revardel

Copyright (c) 2003-2013, 2016, 2018, 2020 by cisco Systems, Inc.
All rights reserved.

Interface VNET submode configuration IP commands.

Copyright (c) 2009-2010 by cisco Systems, Inc.
All rights reserved.
You can report success/failure of your test by calling the following functions.

- Call `sesut_<file prefix>_testpass` to indicate test success.
- void `sesut_<file prefix>_testpass(void);`
- Call `sesut_<file prefix>_testfail` to indicate test failure.
- void `sesut_<file prefix>_testfail(const char *fmt, ... );`
- The length of the formatted string should be less than or equal to 255. Else it will be truncated.
- Prototypes for these functions are included in the header file that is generated by SESUT.

% Cflow

- Enter the files/subsystems in the unit under test.
- These files will be instrumented for Cflow and MIF (if MIF is available in your view). GDB flag `-g` is used during compilation.
- `cflow_list=$(sub_mif) xyz.o $(my_subsys) abc.o`
- This list is ignored if `ses_iouut` is used. `ses_iouut` instruments all files in UUT (defined by `-old` and `-new` options).

% MIF

- Enter MIF configuration
- If MIF configuration is not specified and `cflow_list` is specified then a default MIF configuration is used.
- `../os/free.c`
- `../os/buffers.c`
- `../os/chunk.c`
- `--------------`
- `malloc`
- `malloc_aligned`
- `malloc_fast`
- `malloc_pcimem`
- `malloc_named`
- `chunk_malloc`
- `getbuffer`
- `pool_getbuffer`

% API

- Include DTD configuration.
- Not all features of DTD are available with SESUT yet.
- List headers/text that contain prototypes for the functions to be tested for robustness followed by a line consisting of ‘-’s followed by the list of functions to be tested for robustness.
- It is assumed that a `.h` file that includes all the text listed above the line consisting of ‘-’s is self-compiling in the same context as the one used to compile the `.sesut` file and has the definitions of all the objects whose pointers are referenced.
- `master.h`
% env
! Use this section to list object modules that are not
! part of the standard build but are used by the tests defined in this
! file. The text following "link:" is inserted into the final link step.
!!link:  xyz.o abc.o
!
! Use this section to add any special 'CFLAGS' needed to compile sesut
! generated test file
!cflags: -I../http/http_core/include
!cflags: -I../http/http_core/server
!cflags: -I../ios_http_core/config -I../http/http_core/lib
!cflags: -DEW_CONFIG_OPTION_CLIENT_CACHE
!
! You can specify functions to be executed before and after the test.
! pretest is executed before executing the unit test and the posttest is
! executed after executing the unit test. These are executed once regardless
! of the repeat count. The prototypes of these functions are expected to be:
!  void <pretest>(void);
!  void <posttest>(void);
! Define these functions in the 'model prolog' section. Note that these
! are optional. You can have one or both or none.
!pretest:config_my_feature
!posttest:validate_results
! If want want your pretest/posttest functions to receive same
! parameters as the test then specify the functions as:
!pretest_withparams:config_my_feature
!posttest_withparams:validate_results
! The prototypes for these functions would be:
!  void <pretest_withparams>(<types of parameters>)
!  void <posttest_withparams>(<types of parameters>)
! Parameters are specified using "parameter:" keyword in % model" section.
! If both {pre|post}test and {pre|post}test_withparams are specified:
!  pretest is executed before pretest_withparams.
!  posttest is executed after posttest_withparams.
!
! You can specify a initializer/finalizer function to be executed
! at the time of test initialization/removal.
Initializer is executed once during the lifetime of the current instance of the test. If the test is part of the image then the initializer is executed during subsystem initialization. If the test is a DLST (dynamically loaded) then the initializer is executed just after the dynamic load.

The finalizer is executed when the test is removed (happens when the test is being replaced).

Note that the subsystems in the DLST are not initialized. You must list the subsystem init functions in the initializer function. Subsystem header is ignored for DLST’s. You will not see the subsystems for DLST’s listed in "show subsys" output.

Use initializer to perform tasks like registry addition, memory allocation etc. Similarly use the finalizer to free these resources. This is an important consideration. Treat them like constructor/destructor for the DLST.

The prototypes of these functions are expected to be:

void <initializer>(void);
void <finalizer> (void);

Define these functions in the 'model prolog' section. Note that these are optional. You can have one or both or none.

_initializer:my_init
_finalizer:my_finit

% model prolog iou
This code will be copied unchanged to the start of the generated .c file
Include definitions, declarations, include statements that are used in the model
You can include stubs for the functions that are not ready yet but are invoked.
If you choose to have pretest and posttest functions include them here.

"model prolog " accepts additional keywords.
dt - This is meaningful in automation environments. If the test you are creating alters global state then use "dt" keyword. This informs automation framework that device should be reloaded prior to running next test.
iou - Use this keyword if the test can be executed under IOU.
preinit - Use this if the test executes prior to system initialization.
% model prolog dt

#include IOS_INC(testtools/sesutlib_ios.h)
#include <routing/iprouting_cmn/include/ip_stats.h>
#include <routing/iprouting_cmn/include/iprouting_debug.h>
#include <routing/iprouting_cmn/include/router_af_actions_registry.h>

boolean sesrc;

% model digraph
Describe the model. You have structured your test as a directed graph. Start keywords in column 1. Start the code at an offset(2TABS). This line(“model digraph”) can have an optional keyword. That is "vdag". This would generate testcases representing various acyclic paths leading from the start node. These tests cover all nodes. This does not guarantee that all the edges are covered.

If your test model is a tree(or hierarchical) or a DAG(Directed Acyclic Graph) then you should use this keyword.

%! model digraph vdag

There are three keywords. They are:

- start node <nodeIdentifier> - Specify the start node in the model
- node <nodeIdentifier>: - Beginning of a node description.
  - Include descriptions for all edges starting at this node.
  - If there is code to be executed upon entry to this node enter that immediately following this line but before entering any edge description.
- -><nodeIdentifier>: - Beginning of an edge description. This describes an edge from the node to &lt;n>

Choose <nodeIdentifier> to be descriptive. Examples: AVLTreeInsert, DBSearch, DetachLine

These identifiers are used during runtime to present execution times and other data.

You can specify parameters for your unit test as follows:

-parameters:(uint interface, char* hostname="abc", uint subInterface=1)

This should come before the line specifying the start node.

The parameters can be used in the code for nodes/edges. The values for parameters are received via CLI or as a result of direct invocation of the generated function. Parameters can be of type 'uint' or 'char*'. If values for parameters are provided on CLI defaults are used.

You should provide default values. If default values are not specified then the tool would assign default values. If the type is “uint” the default value is 0. Else(type char*) the default value is “”.

During automation the default values are used. Use descriptive names for parameters.

start node StartNode

You can place initialization code that needs to be executed prior to entering the start node here.

node StartNode:

===== 6 APIs from ip_stats.h/ip_registry.reg =====

1. DEFINE show_ip_interface_with_topo

(void) sesut_execcommand(FALSE, "show ip interface e0/0 topology base stats"); printf("in----- SESUT Test Reg: show_ip_interface_with_topo -----");

2. DEFINE clear_ip_interface_with_topo
(void) sesut_execcommand(FALSE, "clear ip interface e0/0 topology base stats");
printf("\n---- SESUT Test Reg: clear_ip_interface_with_topo -----\n");

! 3. DEFINE show_ip_traffic_with_topo

(void) sesut_execcommand(FALSE, "show ip traffic topology base");
printf("\n---- SESUT Test Reg: show_ip_traffic_with_topo -----\n");

! 4. DEFINE clear_ip_traffic_with_topo

(void) sesut_execcommand(FALSE, "clear ip traffic topology base");
printf("\n---- SESUT Test: clear_ip_traffic_with_topo -----\n");

! 5. DEFINE show_ip_interface_stats

(void) sesut_execcommand(FALSE, "show ip interface e0/0 stats");
printf("\n---- SESUT Test Reg: show_ip_interface_stats -----\n");

! 6. DEFINE clear_ip_interface_stats

(void) sesut_execcommand(FALSE, "clear ip interface e0/0 stats");
printf("\n---- SESUT Test Reg: clear_ip_interface_stats -----\n");

! ===== 2 APIs from iprouting_debug.h =====

! 1. void
!   iprouting_debug_arr_ios_set_csb(struct parseinfo_ *csb);

!iprouting_debug_arr_ios_set_csb(NULL);
printf("\n---- SESUT Test: iprouting_debug_arr_ios_set_csb() -----\n");

! 2. void
!   iprouting_ios_call_debug_cmd(struct parseinfo_ *csb);

!iprouting_ios_call_debug_cmd(NULL);
printf("\n---- SESUT Test: iprouting_ios_call_debug_cmd() -----\n");

! ===== 1 API from router_af_actions_registry.reg =====

! 1. DEFINE address_family_action_named_router REMOTE 3

sesrc = reg_invoke_address_family_action_named_router(NULL);
printf("\n---- SESUT Test Reg: address_family_action_named_router -----\n");

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-
tar/iprouting_cmn/test/iproutingcmn_router_cmd.sesut
/*
* ..........................................................
* ipv4_subsys.c - IPv4 Routing Startup Subsystem
* ...
* July 2005, Mark Schaefer
* ...
* Copyright (c) 2005-2010, 2013 by cisco Systems, Inc.
* All rights reserved.
* ..........................................................
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/ipv4_subsys.c
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
* ..........................................................
* cfg_routemap_set.h
* ...
* Process route-map set subcommands.
* ...
* All rights reserved.
* ..........................................................
* $Log$
* ..........................................................
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_routemap_set.h
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_ip_routing_routing.h,v 3.3.46.3 1996/08/12 16:03:33 widmer Exp$
* $Source: /release/112/cvs/Xsys/iprouting/cfg_ip_routing_routing.h,v$
* ...
* IP routing routing commands
* ...
* May 1993, Robert Widmer
* ...
* Copyright (c) 1993-2000, 2002-2009 by cisco Systems, Inc.
* All rights reserved.
* ...
* ..........................................................
* $Log: cfg_ip_routing_routing.h,v$
* Revision 3.3.46.3 1996/08/12 16:03:33 widmer
* CSCdi65725: Create Eolns macro that defaults csb->which to 0
* Branch: California_branch
* Add Eolns and Nvgenns macro that default csb->which to 0
* Remove hidden keyword help strings
*
* Revision 3.3.46.2 1996/06/17  23:33:31  hampton
* Implement the long sought parser "default" keyword. [CSCdi60510]
* Branch: California_branch
*
* Revision 3.3.46.1 1996/04/15  21:17:41  bcole
* CSCdi54649:  IP Host Modularity, IP Automatic Stub Routing feature
* commit
* Branch: California_branch
*
* Revision 3.3  1995/12/10  00:42:36  pst
* CSCdi38750:  Allow static routes with both next hop and interface
* also add "permanent" keyword for non-flapping static routes
*
* Revision 3.2  1995/11/17  17:31:40  hampton
* Remove old entries from the RCS header logs.
*
* Revision 3.1  1995/11/09  12:04:59  shaker
* Bump version numbers from 2.x to 3.x.
*
* Revision 2.4  1995/10/23  18:33:19  pst
* CSCdi42608:  allow IP cache ager to be shut down, make the
* "ip cache-ager" and "ip cache-invalidate-delay"
* commands internal only.
*
* Revision 2.3  1995/07/13  21:39:05  ahh
* CSCdi36962:  UDP parsing of tacacs-ds port name broken
* Restore "tacacs-ds" as a keyword, but hide it and map it to TACACS_PORT
* for backwards compatibility.
*
* Revision 2.2  1995/07/11  21:52:08  raj
* CSCdi36510:  parser doesn't accept ip forward-protocol udp xdmcp
* (Actually the parser didn't accept *any* symbolic names in the position
* of the UDP port number; only numbers.  It now uses the UDP_PORT macro
* instead.
*
* Revision 2.1  1995/07/01  12:15:42  tli
* CSCdi36508:  Rationalize parser file placement, part I
* Rationalize iprouting
*
* Revision 2.1  1995/06/07  22:08:34  hampton
* Bump version numbers from 1.x to 2.x.
*
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_ip_routing_routing.h
No license file was found, but licenses were detected in source scan.

/*

*------------------------------------------------------------------
* routemap_ios_chain.c -- Route-map generic ios parse chains that
* will be in both RP and VIP/LC
* *
* July 1998, Wilber Su
* *
* Copyright (c) 1998, 2004-2008 by cisco Systems, Inc.
* All rights reserved.
*---------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/routemap_ios_chain.c
No license file was found, but licenses were detected in source scan.

/*

*------------------------------------------------------------------
* iprouting_init_ionblob.c -- IP Routing Init code for blog in ION only
* *
* October 2001, Rashmi Shrivastava
* *
* Copyright (c) 2001-2017 by cisco Systems, Inc.
* All rights reserved.
*---------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprouting_init_ionblob.c
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*------------------------------------------------------------------
* IP routing parse chains
* *
* May 1993, Robert Widmer
* *
* Copyright (c) 1993-2012, 2015-2016 by cisco Systems, Inc.
* All rights reserved.
* *
*---------------------------------------------------------------
No license file was found, but licenses were detected in source scan.
No license file was found, but licenses were detected in source scan.

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/route_map_ionized.c
No license file was found, but licenses were detected in source scan.

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/lfafr_registry.c
No license file was found, but licenses were detected in source scan.

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/route_map_ionized.c
No license file was found, but licenses were detected in source scan.
/*
 * cfg_routetag_list.h -- Route Tag List Parser Command
 * June 2011, Karthik Subramaniam
 * All rights reserved.
 *
 * $Endlog$
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_routetag_list.h
No license file was found, but licenses were detected in source scan.

;/*$Id$
 * $Source$
 *------------------------------------------------------------------
 * CFG_ROUTER_TABLE-MAP.H
 * All Rights Reserved
 *------------------------------------------------------------------
 * $Log$
 *------------------------------------------------------------------
 * $Endlog$
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_router_table-map.h
No license file was found, but licenses were detected in source scan.

/*"-----------------------------------------------------------------------------------------------
 * iprouting_actions_registry.h
 * Router address family actions registry.
 *
 * May 2002, Victor Kamensky
 *
 * All rights reserved.
 *-----------------------------------------------------------------------------------------------
 */
File: iprouting_cmn/include/router_af_actions_registry.h
No license file was found, but licenses were detected in source scan.

/*
 * ip_stats.h - IP for topology aware stats
 */

* Feburary 2006, Jonsky Hsu
*
* Copyright (c) 2006-2008 by cisco Systems, Inc.
* All rights reserved.
*
*------------------------------------------------------------------
*/

File: iprouting_cmn/include/ip_stats.h
No license file was found, but licenses were detected in source scan.

/* $Id: iprouting_init.c,v 1.1 2003/06/13 18:30:09 dsavage Exp dsavage $ 
* $Source: /view/dsavage-CSCdy77097-rip-V123/vob/ios.sys2/sys/iprouting/iprouting_init.c,v $ 
*------------------------------------------------------------------
* iprouting_init.c -- initialize IP Routing Protocol support.
* 
* 20-August-1985, Kirk Lougheed
*
* Copyright (c) 1985-2012, 2016, 2018-2019 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Log: iprouting_init.c,v $ 
* Revision 1.1 2003/06/13 18:30:09 dsavage 
* Initial revision 
* 
*------------------------------------------------------------------
*/

File: iprouting_cmn/src/iprouting_init.c
No license file was found, but licenses were detected in source scan.

/*
*------------------------------------------------------------------
* Debugging flag declarations for protocol filter manager - ION 
* 
* Jan 2006, Mercia Zheng
*/
* * Copyright (c) 2005-2008 by cisco Systems, Inc.
* All Rights Reserved
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/protofltr_debug_flags_ion.h
No license file was found, but licenses were detected in source scan.

/*
* exec_show_routetag_list.h
*
* * All rights reserved.
* *
* * Command parsing chain for "show route-tag".
* *------------------------------------------------------------------
*
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/exec_show_routetag_list.h
No license file was found, but licenses were detected in source scan.

/*
* iprouting_parser_linkpoints.h - iprouting parser linkpoint decls.
*
* * April, 2005
*
* * Copyright (c) 2005, 2007-2008, 2015 by cisco Systems, Inc.
* * All rights reserved.
* *
* *------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/iprouting_parser_linkpoints.h
No license file was found, but licenses were detected in source scan.

/* routemap_api.c -- Dynamic routemap APIs.
*
* * May 2003, Tanya Shastri
* */
* router RIP inter-frame gap subcommand
* Aug 1996, Dawn Li
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/external_inc/cfg_router_output-delay.h
No license file was found, but licenses were detected in source scan.

/**$Id$
* $Source$
*------------------------------------------------------------------
* route.h -- IP routing definitions
* 22-March-1986, Kirk Lougheed
* Copyright (c) 1986-2020 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/route.h
No license file was found, but licenses were detected in source scan.

/*/
* router_af_actions_registry.c
* Router address family actions registry.
* May 2002, Victor Kamensky
* Copyright (c) 2002-2004, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
*/
Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/router_af_actions_registry.c
No license file was found, but licenses were detected in source scan.

/*
 * protofltr_public.h
 *
 * Routing protocol filter manager Public API definitions
 *
 * Dec 2008, Mercia Zheng
 *
 * Copyright (c) 2008-2009 by cisco Systems, Inc.
 * All rights reserved.
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/protofltr_public.h
No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprouting_registry.c
No license file was found, but licenses were detected in source scan.

/* $Id: iprouting_actions.c,v 3.2.60.2 1996/08/23 22:02:29 jserpa Exp $*/

* IP routing specific parsing functions.
* August 1994, Bruce Cole
*
* All rights reserved.
*---------------------------------------------------------------
* $Log: iprouting_actions.c,v $
* Revision 3.2.60.2  1996/08/23  22:02:29  jserpa
* CSCdi67021: router ospf <as> gets nv-ramed in reverse order of
* configuration
* Branch: California_branch
* 
* Revision 3.2.60.1  1996/04/15  21:18:11  bcole
* CSCdi54649: IP Host Modularity, IP Automatic Stub Routing feature
* commit
* Branch: California_branch
* 
* Revision 3.2  1995/11/17  17:34:38  hampton
* Remove old entries from the RCS header logs.
* 
* Revision 3.1  1995/11/09  12:08:28  shaker
* Bump version numbers from 2.x to 3.x.
* 
* Revision 2.1  1995/06/07  21:07:33  hampton
* Bump version numbers from 1.x to 2.x.
* 
*---------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprouting_actions.c
No license file was found, but licenses were detected in source scan.

/*/ $Id$
* $Source$
*---------------------------------------------------------------
* cfg_router_input-queue.h
*
* September 1997, Dawn Li
*
* Copyright (c) 1997-2002, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*---------------------------------------------------------------
* $Log$
*---------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_input-
queue.h
No license file was found, but licenses were detected in source scan.

/*
*------------------------------------------------------------------
* cfg_router_topology_mode.h - router topology configuration sub mode
*commands.
*
* Sept 2004, Mercia Zheng
*
* Copyright (c) 2004, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_router_topology_mode.h
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_router_traffic-share.h,v 3.3.20.1 1996/08/12 16:03:58 widmer Exp $ */
/* $Source: /release/112/cvs/Xsys/iprouting/cfg_router_traffic-share.h,v $ */

* cfg_router_traffic-share.h - parsing of the traffic-share command
*
* Oct 1993 Tony Li
*
* All rights reserved.
*------------------------------------------------------------------
* $Log: cfg_router_traffic-share.h,v $
* Revision 3.3.20.1 1996/08/12 16:03:58 widmer
* CSCdi65725: Create Eolns macro that defaults csb->which to 0
* Branch: California_branch
* Add Eolns and Nvgenns macro that default csb->which to 0
* Remove hidden keyword help strings
* Revision 3.3 1996/02/01 23:34:03 widmer
* CSCdi45325: Change Keyword/Set to use Keyword_Id macro
* Revision 3.2 1995/11/17 17:32:35 hampton
* Remove old entries from the RCS header logs.
* Revision 3.1 1995/11/09 12:06:21 shaker
* Bump version numbers from 2.x to 3.x.
* Revision 2.1 1995/07/01 12:16:07 tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting
* Revision 2.1 1995/06/07 22:13:22 hampton
* Bump version numbers from 1.x to 2.x.
*
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_traffic-share.h
No license file was found, but licenses were detected in source scan.

/ *
*------------------------------------------------------------------
* routemap_ios_blob.c -- Route map support routines that can be shared
* by RP and VIP/LC
* *
* October 14, 2001  Siva Yaragalla
* *
* Copyright (c) 2001-2020 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/routemap_ios_blob.c
No license file was found, but licenses were detected in source scan.

/ *
*------------------------------------------------------------------
* msg_routemap.c -- Message system definitions for Route-map
* *
* Copyright (c) 2003, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/msg_routemap.c
No license file was found, but licenses were detected in source scan.

/ *
* $Id$
* $Source$
*------------------------------------------------------------------
* route3.c -- Routing Support: Router command and related routines
*
* 15-June-1987, Kirk Lougheed
*
* Copyright (c) 1987-2021 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*/
/*
* If its not a per-user distribute-list, we have to configure the
* route-map for pflist_def too - its used to restore default when
* a per-user distribute-list is un-configured as well as for
* nvgen purposes. All this mess, only for the interface specific
* version.
*/
/*
* This command is only valid for ipv4 and nsap AFs in BGP.
* However it is accepted for other BGP AFs
* for backwards compatibility. However, no action
* is taken for these AFs and it is not nvgen'ed
* either. Check out cfg_router_default.h for
* more details.
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/route3.c
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*------------------------------------------------------------------
* Exit from BGP Address Family mode.
*
* Sept 1998, Bob Thomas
*
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_af_exit.h
No license file was found, but licenses were detected in source scan.
/*
 * protofltr_debug.h -- Routing protocol filter manager debug flag
 *
 * Jan 2006, Mercia Zheng
 *
 * Copyright (c) 2005-2008 by Cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/protofltr_debug.h
No license file was found, but licenses were detected in source scan.

/*
 *---------------------------------------------------------------
 * cfg_router_maximum-paths.h
 *
 * 22-May-2016, Les Ginsberg
 *
 * Copyright (c) 2016 by Cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_maximum-sec-paths.h
No license file was found, but licenses were detected in source scan.

/*
 *---------------------------------------------------------------
 * iprouting_debug.h -- Debugging declarations for IP routing
 *
 * May 1993, John Bashinski
 *
 * Copyright (c) 1993-2010 by Cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/iprouting_debug.h
No license file was found, but licenses were detected in source scan.

/*
 *---------------------------------------------------------------

* Revision 3.3 1996/02/01 23:33:59 widmer
* CSCdi43525: Change Keyword/Set to use Keyword_Id macro

* Revision 3.2 1995/11/17 17:32:19 hampton
* Remove old entries from the RCS header logs.

* Revision 3.1 1995/11/09 12:05:53 shaker
* Bump version numbers from 2.x to 3.x.

* Revision 2.1 1995/07/01 12:15:58 tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting

* Revision 2.1 1995/06/07 22:12:58 hampton
* Bump version numbers from 1.x to 2.x.

*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cm/cm/include/cfg_router_offset.h
No license file was found, but licenses were detected in source scan.

/*
*------------------------------------------------------------------
* network_constants.h -- General Networking Constants
* June 2002, interest-idb
* Copyright (c) 2002-2004, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cm/include/network_constants.h
No license file was found, but licenses were detected in source scan.

/"------------------------------------------------------------------
* routing_context_chain.c
*
* Parse chain file for routing context support.
* March 2009, Derek Yeung
* Copyright (c) 2009, 2015 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmnm/src/routing_context_chain.c
No license file was found, but licenses were detected in source scan.

/ *
* IOS prefix list support.
* *
* March 2005, Sarath Chandran
* *
* Copyright (c) 2005, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmnm/src/ip_prefixlist_ios.c
No license file was found, but licenses were detected in source scan.

/ *
* routemap_debug_flags.h -- Routemap debugging support
* *
* July 1998, Wilber Su
* *
* All rights reserved.
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmnm/include/routemap_debug_flags.h
No license file was found, but licenses were detected in source scan.

##
## content.lst file for iprouting_cmnm
## See EDCS-905060 for more details.
##
## Oct 2010, Manu Pathak
##
## Copyright (c) 2010-2011, 2016 by cisco Systems, Inc.
## All rights reserved.
##
syntax: 1.0.0

# iprouting_cmnn meta-source files

```c
# iprouting_cmn meta-source files
group: iprouting_cmn-generic
{
    enum:
        iprouting_cmn/include/enum/iprouting_api.enum

    reg:
        iprouting_cmn/include/reg/ion_iprouting_cmd_registry.reg
        iprouting_cmn/include/reg/iprouting_registry.reg
        iprouting_cmn/include/reg/lfafrr_registry.reg
        iprouting_cmn/include/reg/route_map_registry.reg
        iprouting_cmn/include/reg/router_af_actions_registry.reg
        iprouting_cmn/include/reg/router_topology_registry.reg
        iprouting_cmn/include/reg/routing_context_registry.reg
}
# end of group: iprouting_cmn-generic

# iprouting_cmn source files

```
sub: iprouting_common_nbcmn
{
contains:
  iprouting_cmn/src/route_map_nbcmn.c
}
sub: iprouting_common_nonblob
{
contains:
  iprouting_cmn/src/ip_prefixlist_ios.c
  iprouting_cmn/src/policylist_ios.c
}
sub: iprouting_init_ios
{
contains:
  iprouting_cmn/src/iprouting_init_ios.c
}
sub: iprouting_ionblob
{
context: os==ion
contains:
  iprouting_cmn/src/iprouting_init_ionblob.c
  iprouting_cmn/src/iprouting_parse_blob.c
  iprouting_cmn/src/router_af_parse_blob.c
}
sub: iprouting_ionized
{
context: os==ion
contains:
  iprouting_cmn/src/iprouting_init_ionized.c
  iprouting_cmn/src/route3_ionized.c
}
sub: iprouting_misc
{
contains:
  iprouting_cmn/src/routemap_api.c
  iprouting_cmn/src/routemap_api_util.c
  iprouting_cmn/src/routemap_internal.c
}
sub: iprouting_nonblob
{
contains:
  iprouting_cmn/src/iprib_api_svr.c
  iprouting_cmn/src/iprouting_init.c
  iprouting_cmn/src/iprouting_stats.c
  iprouting_cmn/src/protofltr.c
  iprouting_cmn/src/route1.c
contains:
  iprouting_cmn/src/routemap_ios.c
  iprouting_cmn/src/routemap_track_ios.c
}
sub: routemap_ios_chain
{
  contains:
    iprouting_cmn/src/routemap_ios_chain.c
}
sub: routemap_lc_ipc
{
  context: os==ios
  contains:
    iprouting_cmn/src/route_map_globs.c
    iprouting_cmn/src/routemap_api.c
    iprouting_cmn/src/routemap_api_util.c
    iprouting_cmn/src/routemap_debug.c
    iprouting_cmn/src/routemap_internal.c
    iprouting_cmn/src/routemap_ios_chain.c
    iprouting_cmn/src/routetag_list.c
}
sub: router_af_actions_registry
{
  contains:
    iprouting_cmn/src/router_af_actions_registry.c
}
sub: router_topology_registry
{
  contains:
    iprouting_cmn/src/router_topology_registry.c
}
sub: routing_context
{
  contains:
    iprouting_cmn/src/routing_context.c
}
sub: routing_context_registry
{
  contains:
    iprouting_cmn/src/routing_context_registry.c
}

# end of group: iprouting_cmn

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/content.lst
No license file was found, but licenses were detected in source scan.
/*
 *------------------------------------------------------------------
 * cfg_router_auto_summary.h
 *
 * October 1993
 *
 * Copyright (c) 1993-1996, 1999-2009 by cisco Systems, Inc.
 * All rights reserved.
 *
 * Supports the router subcommand "auto-summary". Configures auto aggregation
 * of routing information to the network number level.
 *------------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-
tar/iprouting_cmn/internal_inc/cfg_router_auto_summary.h

No license file was found, but licenses were detected in source scan.

/* $Id: cfg_routemap_set_policy.h,v 3.3.52.1 1996/05/21 09:53:12 thille Exp $ */
* $Source: /release/112/cvs/Xsys/iprouting/cfg_routemap_set_policy.h,v $
*------------------------------------------------------------------
* cfg_routemap_set_policy.h -- Policy specific route map clauses
*
* Mar 1995 Tony Li
*
* All rights reserved.
*------------------------------------------------------------------
* $Log: cfg_routemap_set_policy.h,v $
* Revision 3.3.52.1 1996/05/21 09:53:12 thille
* CSCDi51599: multiple /interface/ literals bloat code.
* Branch: California_branch
* Save another 392 bytes by doing away with duplicate literals.
*
* Revision 3.3 1995/11/28 19:50:39 widmer
* CSCDi44251: Replace Ifelse(csb->in_help)/Eval with Func
*
* Revision 3.2 1995/11/17 17:31:55 hampton
* Remove old entries from the RCS header logs.
*
* Revision 3.1 1995/11/09 12:05:18 shaker
* Bump version numbers from 2.x to 3.x.
*
* Revision 2.3 1995/06/21 18:16:03 widmer
* CSCDi36227: Fix parse chain alternates
*
* Revision 2.2 1995/06/15 15:18:47 widmer

Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 116
* CSCdi35889: parser transition structures should be static
* Revision 2.1 1995/06/07 21:05:42 hampton
* Bump version numbers from 1.x to 2.x.
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/cfg_routemap_set_policy.h
No license file was found, but licenses were detected in source scan.

/*
* exec_debug_protofltr.h
* Jan 2006, Mercia Zheng
* Copyright (c) 2005-2009 by cisco Systems, Inc.
* All Rights Reserved
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/exec_debug_protofltr.h
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*------------------------------------------------------------------
* route1.c -- Routing Support: Common Routines
* 22-March-1986, Kirk Lougheed
* Copyright (c) 1986-2020 by cisco Systems, Inc.
* All rights reserved.
* $Log$
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/route1.c
No license file was found, but licenses were detected in source scan.
No license file was found, but licenses were detected in source scan.

/*
 *---------------------------------------------
 * route_map_registry.h -- Registration Points for Route Maps support in ION
 *
 * July 2001, Siva Yaragalla
 *
 * All rights reserved.
 *---------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/route_map_registry.h
No license file was found, but licenses were detected in source scan.

/*
 *---------------------------------------------
 * routemap_track_ios.c -- Route map support for tracking
 * Functions shared by rp & vip.
 *
 * March 2003 Shyan Wignarajah
 *
 * Copyright (c) 2003-2010, 2013-2014, 2016 by cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/routemap_track_ios.c
No license file was found, but licenses were detected in source scan.

/*
 *---------------------------------------------
 * IP routing table flap statistics collection facility.
 *
 * Nov 1996, Ravi Chandra
 *
 * All rights reserved.
 *---------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprouting_stats.c
No license file was found, but licenses were detected in source scan.

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 118
route_map.c -- Route map support routines.

23-January-1993

Copyright (c) 1986-2020 by cisco Systems, Inc.
All rights reserved.

route_map.c -- Route map support routines.

Copyright (c) 1986-2020 by cisco Systems, Inc.
All rights reserved.

route_map.c -- Route map support routines.

Copyright (c) 1986-2020 by cisco Systems, Inc.
All rights reserved.

route_map.c -- Route map support routines.

Copyright (c) 1986-2020 by cisco Systems, Inc.
All rights reserved.

route_map.c -- Route map support routines.

Copyright (c) 1986-2020 by cisco Systems, Inc.
All rights reserved.

route_map.c -- Route map support routines.

Copyright (c) 1986-2020 by cisco Systems, Inc.
All rights reserved.

route_map.c -- Route map support routines.

Copyright (c) 1986-2020 by cisco Systems, Inc.
All rights reserved.

route_map.c -- Route map support routines.

Copyright (c) 1986-2020 by cisco Systems, Inc.
All rights reserved.
* CSCdi52277: Redistribution metric problems with IGRP/EIGRP
  * Branch: California_branch
  * Always store canonical metrics scaled for IGRP, and make EIGRP do
  * its own scaling internally. Get the scaling right in all three
  * places.
  *
  * Revision 3.4.10.3 1996/03/28 23:59:18 rchandra
  * CSCdi52098: BGP: exact keyword not accepted by route-map in community
  * match
  * Branch: California_branch
  * - fix my silly bug in handling exact community matching
  * - limit the range of valid community to 0xFFFF0000
  * - fix a cosmetic bug in show ip community-list
  *
  * Revision 3.4.10.2 1996/03/28 22:28:25 rchandra
  * CSCdi52880: BGP: generate error message for unsupported route-map
  * options
  * Branch: California_branch
  * - generate error message when unsupported route-map option is used
  * - treat confederation EBGP neighbors similar to internal neighbors in
  *   best path selection
  * - fix the bug in bgp_compare_med, so that during MED comparison,
  *   confederation information is skipped properly
  * - confederation EBGP paths should be inserted into the IP table with
  *   internal distance
  * - do not consider common-AS neighbors as confederation neighbors
  * - during 'clear ip bgp dampening' avoid skipping paths
  * - undo the patch to the radix version walker
  *
  * Revision 3.4.10.1 1996/03/18 20:29:32 gstovall
  * Branch: California_branch
  * Elvis has left the building. He headed out to California, and took the
  * port ready changes with him.
  *
  * Revision 3.2.26.3 1996/03/16 06:58:25 gstovall
  * Branch: DeadKingOnAThrone_branch
  * Make the king aware of V111_1_3.
  *
  * Revision 3.2.26.2 1996/03/07 09:50:41 mdb
  * Branch: DeadKingOnAThrone_branch
  * cisco and ANSI/POSIX libraries.
  *
  * Revision 3.2.26.1 1996/02/20 01:04:27 dstine
  * Branch: DeadKingOnAThrone_branch
  * Sync from DeadKingOnAThrone_baseline_960122 to
  *   DeadKingOnAThrone_baseline_960213
  *
  * Revision 3.4 1996/02/24 02:01:55 pst

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 120
* CSCdi49774: modularize regexp's for bgp (part 3) *
* Revision 3.3 1996/02/01 06:06:17 hampton
* Migrate files out of the parser directory. [CSCdi47717]
* Step 2: Change all files which reference the moved parser files to
* point to their new locations.
* 
* Revision 3.2 1995/11/17 17:37:13 hampton
* Remove old entries from the RCS header logs.
* 
* Revision 3.1 1995/11/09 12:10:35 shaker
* Bump version numbers from 2.x to 3.x.
* 
* Revision 2.6 1995/09/25 08:31:19 tli
* CSCdi40960: ISP jumbo patch 2
* 
* Revision 2.5 1995/07/06 23:12:39 rchandra
* CSCdi36759: BGP : Add conditional per neighbor default generation
* - add 'neighbor <x.x.x.x> default-originate route-map <tag>' command.
* 
* Revision 2.4 1995/06/23 14:26:05 widmer
* CSCdi36318: multiple route-map commands are not accepted
* Fix route-map command NV generation
* 
* Revision 2.3 1995/06/15 15:18:52 widmer
* CSCdi35889: parser transition structures should be static
* 
* Revision 2.2 1995/06/08 08:59:19 tli
* CSCdi35274: route-map test-1 crashes IOS
* - If a route map does not set any routing information, it should be
*   equivalent to not having policy routed the packet.
* - "match length" clauses were having their flag stepped on because the
*   flag update routine didn't know about the clause.
* 
* Revision 2.1 1995/06/07 21:10:53 hampton
* Bump version numbers from 1.x to 2.x.
* 
*---------------------------------------------------------------

$Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/route_map.c
No license file was found, but licenses were detected in source scan.

/!* $Id$
* $Source$
*---------------------------------------------------------------
* cfg_routemap_set_ip.h -- IP specific route-map clauses
* 
* Mar 1995 Tony Li
* 
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
*/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_routemap_set_ip.h
No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 *------------------------------------------------------------------
 * Registry for IP FRR infrastructure
 * 
 * July 6, 2010 Ahmed Bashandy
 * 
 * All rights reserved.
 *------------------------------------------------------------------
 * $Log$
 *------------------------------------------------------------------
 * $Endlog$
*/

Found in path(s):
*/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/lfafrr_registry.h
No license file was found, but licenses were detected in source scan.

/*---------------------------------------------------------------
 * router_af_parse.h
 * 
 * Route Address Family parser functions declarations.
 * 
 * May 2002, Victor Kamensky
 * 
 * Copyright (c) 2002, 2007-2008 by cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------------------------
*/

Found in path(s):
No license file was found, but licenses were detected in source scan.

/*
 *  ********************************************************************************
 *  iprouting_parser_macros.h - Routing macros moved out of
 *   sys/parser/macros.h
 *  *
 *  November, 2004
 *
 *  Copyright (c) 2004-2011, 2013, 2015, 2018 by cisco Systems, Inc.
 *  All rights reserved.
 *  ********************************************************************************
 *
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/iprouting_parser_macros.h
No license file was found, but licenses were detected in source scan.

/*
 *  ********************************************************************************
 *  routemap_debug.c -- Routemap debugging support
 *  *
 *  July 1998, Wilber Su
 *  *
 *  All rights reserved.
 *  ********************************************************************************
 *
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/routemap_debug.c
No license file was found, but licenses were detected in source scan.

/*
 *  ********************************************************************************
 *  route_map_ionblob.c -- Route Maps support for ION Blob
 *  *
 *  October 2001, Siva Yaragalla
 *  *
 *  All rights reserved.
 *  ********************************************************************************
 *
 */

Found in path(s):

Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 123
No license file was found, but licenses were detected in source scan.

/*
 *---------------------------------------------
 * routemap_ios.c -- Route map support routines that can be shared
 * by RP and VIP/LC
 *
 * July 1998 Wilber Su
 *
 * Copyright (c) 1998-2020 by cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------
 */

No license file was found, but licenses were detected in source scan.

/*---------------------------------------------
 * route_map_globs.c
 *
 * This file has the route map globals common to blob (for lc images)
 * and routing process(for routing images).
 *
 * Copyright (c) 2002-2005, 2007-2008 by cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------
 */

No license file was found, but licenses were detected in source scan.

/*---------------------------------------------
 * topo_aware.h - Define multi-topology awareness
 *
 * March 2005, Les Ginsberg
 *
 * Copyright (c) 2005, 2007-2008 by cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------
 */

No license file was found, but licenses were detected in source scan.
No license file was found, but licenses were detected in source scan.

/*
*---------------------------------------------------------------
* CFG_ROUTER_TOPO_REDISTRIBUTE.H
*
* October 2004, Lisa Z Xu
*
* Copied from and modified based on cfg_router_redistribute.h.
* Warning:
* If you modify this file, please also check cfg_router_redistribute.h
* to see if the changes apply to config-router mode as well.
*
* Copyright (c) 2004-2011, 2018-2021 by Cisco Systems, Inc.
* All Rights Reserved
*---------------------------------------------------------------
*/

No license file was found, but licenses were detected in source scan.

/* $Id: cfg_router_distribute.h,v 3.3.50.2.6.1 1996/09/12 19:08:19 perryl Exp $ */
* $Source: /release/112/cvs/Xsys/iprouting/cfg_router_distribute.h,v $
*---------------------------------------------------------------
* CFG_ROUTER_DISTRIBUTE.H
*
* All Rights Reserved
*---------------------------------------------------------------
* $Log: cfg_router_distribute.h,v $
* Revision 3.3.50.2.6.1 1996/09/12 19:08:19 perryl
* Branch: California_branch
* Allow virtual-access interface for distribute-list
*
* Revision 3.3.50.2 1996/08/12 16:03:44 widmer
* CSCDi65725: Create Eolns macro that defaults csb->which to 0
* Branch: California_branch
* Add Eolns and Nvgenns macro that default csb->which to 0
* Remove hidden keyword help strings
*
* Revision 3.3.50.1 1996/05/04 01:21:18 wilber
* Branch: California_branch
*
* Constrained Multicast Flooding
* - Define MOSPF hello option bit.
*
* Name Access List

* Revision 3.3 1995/12/04 06:47:13 tli
* CSCdi43559: IP: distribute-list 101 out should work

* Revision 3.2 1995/11/17 17:32:10 hampton
* Remove old entries from the RCS header logs.

* Revision 3.1 1995/11/09 12:05:34 shaker
* Bump version numbers from 2.x to 3.x.

* Revision 2.1 1995/07/01 12:15:52 tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting

* Revision 2.1 1995/06/07 22:12:36 hampton
* Bump version numbers from 1.x to 2.x.

*----------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-
tar/iprouting_cmn/internal_inc/cfg_router_distribute.h
No license file was found, but licenses were detected in source scan.

/*------------------------------------------------------------------------------
* ip_stats.c - IP for topology aware stats
* 
* April 2006, Jonsky Hsu
* 
* Copyright (c) 2006-2010 by cisco Systems, Inc.
* All rights reserved.
* 
*----------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/ip_stats.c
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*----------------------------------------------
*/

* parser_defs_route_map.h

*
* Constant definition for route-map command and associated subcommands.

* All rights reserved.

/*---------------------------------------------
* $Log$
*---------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/parser_defs_route_map.h
No license file was found, but licenses were detected in source scan.

/*------------------------------------------------------------------
* protofltr.h
*
* Routing protocol filter manager Public API definitions
*
* Jan 2006, Mercia Zheng
*
* Copyright (c) 2005-2011, 2020 by cisco Systems, Inc.
* All rights reserved.
*---------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/protofltr.h
No license file was found, but licenses were detected in source scan.

/*------------------------------------------------------------------
* router_af_actions.h
*
* Router Address Family action declarations.
*
* May 2002, Victor Kamensky
*
* All rights reserved.
*---------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/router_af_actions.h
No license file was found, but licenses were detected in source scan.

/*$Id: cfg_router_maximum-paths.h,v 3.2 1995/11/17 17:32:11 hampton Exp $*/
* $Source: /swtal/cherf.111/ios/sys/iprouting/cfg_router_maximum-paths.h,v $
*------------------------------------------------------------------
* cfg_router_maximum-paths.h
* * <July> 1994 rchandra
* *
* Copyright (c) 1994-2016, 2019 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Log: cfg_router_maximum-paths.h,v $
* Revision 3.2  1995/11/17  17:32:11  hampton
* Remove old entries from the RCS header logs.
* *
* Revision 3.1  1995/11/09  12:05:39  shaker
* Bump version numbers from 2.x to 3.x.
* *
* Revision 2.1  1995/07/01  12:15:53  tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting
* *
* Revision 2.1  1995/06/07  22:12:44  hampton
* Bump version numbers from 1.x to 2.x.
* *
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_maximum-paths.h
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*------------------------------------------------------------------
* cfg_router_validate.h
* *
* Nob to allow user to decide whether or not system should sanity check
* source IP address of incoming routing updates.
*
* March 1994, Bruce Cole
*
* Copyright (c) 1994-2002, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
* *
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* Revision 2.1 1995/06/07 22:25:36 hampton
* Bump version numbers from 1.x to 2.x.
* 
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/exec_show_route-map.h
No license file was found, but licenses were detected in source scan.

/*-----------------------------------------------*/
* route_map_def.h - Route Map Type Definition
* *
* Feb, 2006 Allen Hu
* *
* Copyright (c) 2006-2008, 2017 by cisco Systems, Inc.
* All rights reserved.
*-----------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/route_map_def.h
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*-----------------------------------------------*/
* iprouting_parser.h -- IP routing parser API header file
* *
* April - 2007, Selva Subramanian
* *
* Copyright (c) 2001-2009 by cisco Systems, Inc.
* All rights reserved.
*-----------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprouting_parser.h
No license file was found, but licenses were detected in source scan.

/*
*PARSER_DEFS_ROUTER.H
* *
* $Id: parser_defs_router.h,v 3.1.40.2 1996/07/30 06:56:06 rchandra Exp$
* $Source: /release/112/cvs/Xsys/iprouting/parser_defs_router.h,v$
*/
* Copyright (c) 1985-2020 by cisco Systems, Inc.
* All rights reserved.
* 
* $Log: parser_defs_router.h,v $
* Revision 3.1.40.2  1996/07/30  06:56:06  rchandra
* CSCdi64489:  BGP: private-AS number cannot be removed from AS-path
* Branch: California_branch
*  - add 'neighbor x.x.x.x remove-private-AS' command.
*  - add 'inbound' keyword to 'neighbor x.x.x.x soft-reconfiguration'
*  command (CSCdi64487)
* 
* Revision 3.1.40.1  1996/04/16  19:02:10  rchandra
* CSCdi54830:  IP features commit
* Branch: California_branch
* 
* Revision 3.1  1996/02/01  04:58:48  hampton
* Migrate files out of the parser directory.  [CSCdi47717]
*  Step 1: Create copies of the files to be moved in their new location.
* 
* Revision 3.2  1995/11/17  18:52:17  hampton
* Remove old entries from the RCS header logs.
* 
* Revision 3.1  1995/11/09  12:56:05  shaker
* Bump version numbers from 2.x to 3.x.
* 
* Revision 2.4  1995/08/28  21:14:47  rchandra
* CSCdi39436:  BGP : Allow conditional unsuppression of suppressed routes
*  - add 'neighbor x.x.x.x unsuppress-map <map>' command
* 
* Revision 2.3  1995/07/06  23:11:21  rchandra
* CSCdi36759:  BGP : Add conditional per neighbor default generation
*  - add 'neighbor <x.x.x.x> default-originate route-map <tag>' command.
* 
* Revision 2.2  1995/06/30  20:24:40  rchandra
* CSCdi36620:  BGP requires IBGP neighbors to be fully meshed
* 
* Revision 2.1  1995/06/07  22:31:08  hampton
* Bump version numbers from 1.x to 2.x.
* 
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmnn/include/parser_defs_router.h
No license file was found, but licenses were detected in source scan.
/* $Id: exec_clear_ip_prefixlist.h,v 3.1.2.1 1997/12/17 21:36:58 enkechen Exp $ *
* $Source: /release/111/cvs/Xsys/ip/exec_clear_ip_prefixlist.h,v $ *
*------------------------------------------------------------------
* exec_clear_ip_prefixlist.h
*
* July 1997, Enke Chen
*
* All rights reserved.
*------------------------------------------------------------------
* $Log: exec_clear_ip_prefixlist.h,v $
* Revision 3.1.2.1 1997/12/17 21:36:58 enkechen
* CSCdj61356: Prefix-list - facility for efficient route filtering
* Branch: FIB_branch
*
* Revision 3.1 1997/12/17 01:46:34 enkechen
* Start with the new file.
*
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/exec_clear_ip_prefixlist.h
No license file was found, but licenses were detected in source scan.

# iproutingcmn_router_cmd.run-doxygen -- Run-doxygen Configuration File for
# IP Routing Common Router Commands
# December 2007, Chi Iong Ansjory
#
# Copyright (c) 2007-2008, 2012 by cisco Systems, Inc.
# All rights reserved.
#-----------------------------------------------

# RUN-DOXYGEN CONFIG FILE
#
# The variables defined in this file are used by the run-doxygen script to
# execute doxygen and generate API documentation.
# This file will be sourced by a bourne shell script (/bin/sh)
# and so must follow the bourne shell script syntax
#
# This default configuration file is setup to work for the XOS project.
# If you want to reuse it, you must customize the properties below in order to
# make it work for your project.
#
# For more help contact doxygen-trolls@cisco.com
#

# The PROJECT_NAME variable is a single word (or a sequence of words surrounded
# by quotes) that should identify the project.

PROJECT_NAME=IPROUTINGCMN_ROUTER_CMD

# The PROJECT_NUMBER tag can be used to enter a project or revision number.
# This could be handy for archiving the generated documentation or
# if some version control system is used.

PROJECT_NUMBER=0.1.0.2

# The latest version of doxygen can be picked on the shared storage
# of the XOS/Component Framework team
# This executable can only run on linux 2.6 !!!!
#DOXYGEN=/auto/ios_comp/tools/doxygen-1.5.4/bin/doxygen
# Change this sanity check when doxygen will be supported for other hosts
#host=uname -s
#host_version=uname -r
#if [ $host != "Linux" ]; then
  #echo "Error: this wrapper can only be executed from Linux"
  #exit
#fi
#if [ $host_version \< "2.6" ]; then
  #echo "Error: this wrapper requires Linux 2.6 or higher"
  #exit
#fi
# # The location of the latex suite, this is needed only if the PDF
# # generation option is used (-f)
# # This binary is also only available on linux 2.6
# #LATEX_PATH=/auto/ios_comp/tools/tetex/bin/i686-pc-linux-gnu
#LATEX_PATH=/usr/bin
#
# # Use this variable to specify one or more wildcard pattern (like *.cpp
# # and *.h) to filter out the source-files in the directories.

FILE_PATTERNS="ip_stats.h iprouting_debug.h router_af_actions_registry.regh"

# Exclude all internal defines (defines used to guard against multiple
# inclusions of the same header file)
EXCLUDE_SYMBOLS="__*_H__ reg_add* reg_delete* service_* reg_used* \
# When all symbols in a project start with a common prefix, by default all
# symbols will be put under the same header in the alphabetical index.
# The IGNORE_PREFIX tag can be used to specify one or more prefixes that
# should be ignored while generating the index headers. This will allow
# to spread the symbol index more evenly.

IGNORE_PREFIX="xos_ XOS_ "

# If the EXTRACT_ALL tag is set to YES doxygen will assume all entities in
# documentation are documented, even if no documentation was available.
# Private class members and static file members will be hidden unless
# the EXTRACT_PRIVATE and EXTRACT_STATIC tags are set to YES

EXTRACT_ALL=YES

# If the EXTRACT_STATIC tag is set to YES all static members of a file
# will be included in the documentation.

EXTRACT_STATIC=YES

# If the HIDE_UNDOC_MEMBERS tag is set to YES, Doxygen will hide all
# undocumented members of documented classes, files or namespaces.
# If set to NO (the default) these members will be included in the
# various overviews, but no documentation section is generated.
# This option has no effect if EXTRACT_ALL is enabled.

HIDE_UNDOC_MEMBERS=NO

#---------------------------------------------------------------------------
# VARIABLES RELATED TO DOXYGEN OUTPUT

# This is the root of the destination folder (local variable)
# Note that the archive area and the workspace area do not have to share the
# same destination root.
DST_BASE=/auto/ios_comp/iprouting_cmn

# This is the URL through which the DST_BASE folder can be accessed
# from the intranet. This URL depends on the location of the storage.
# Contact IT to find out the correct URL.
# (Local variable)
URL_DST_BASE=http://sjc-filer29a-web/projects/ios_comp/iprouting_cmn

# ---- WORKSPACE AREA
# Relative path (to DST_BASE) - used by OUTPUT_WORKSPACE (local variable)
WORKSPACE_FOLDER=api-docs

# This is the full pathname of the root under which all normal output folders will be located
OUTPUT_WORKSPACE=$DST_BASE/$WORKSPACE_FOLDER

# This is the URL of the above OUTPUT_WORKSPACE directory
# Only used for displaying where to access the documentation after the doxygen run
URL_WORKSPACE=$URL_DST_BASE/$WORKSPACE_FOLDER

# ---- ARCHIVE AREA
# Relative path (to DST_BASE) - used by OUTPUT_ARCHIVE (local variable)
ARCHIVE_FOLDER=archive/xoslib

# This is the full pathname of the root under which all archive output folders will be located
OUTPUT_ARCHIVE=$DST_BASE/$ARCHIVE_FOLDER

# This is the URL of the above OUTPUT_WORKSPACE directory
# Only used for displaying where to access the documentation after the doxygen run
URL_ARCHIVE=$URL_DST_BASE/$ARCHIVE_FOLDER

# VARIABLES RELATED TO DOXYGEN INPUT

# This is the root of the API source code (local variable)
SRC_BASE=/vob/cisco.comp/routing/iprouting_cmn

# This is the location of all the API public header files (or directories)
# In XOS all public header files are located in one directory
API_PUBLIC="$SRC_BASE/include $SRC_BASE/include/reg"

# This is the location of all the API source code, used with option -all only
# if you want to generate doxygen documentation for the source code
# (only useful for internal code review)
# Do not put the content of API_PUBLIC as it is added automatically
API_ALL="$SRC_BASE/shared $SRC_BASE/ios $SRC_BASE/fox $SRC_BASE/linux"

# The EXAMPLE_PATH tag can be used to specify one or more files or
directories that contain example code fragments that are included (see
# the @example command).
EXAMPLE_PATH=$SRC_BASE/test/src

# The IMAGE_PATH tag can be used to specify one or more
directories that contain image that are included in the documentation (see
# the @image command).
# This is only used/relevant if you have images in your API documentation.

IMAGE_PATH=$DST_BASE/api-docs-images

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-
tar/iprouting_cmn/docs/iproutingcmn_router_cmd.run-doxygen
No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 * ---------------------------------------------------------------
 * iprouting_commands.h -- Support for extern command function declaration
 * *
 * September 2001, Rashmi Shrivastava
 * *
 * Copyright (c) 2001-2010, 2013, 2016 by cisco Systems, Inc.
 * All rights reserved.
 * ---------------------------------------------------------------
 * $Log$
 * ---------------------------------------------------------------
 * $Endlog$
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-
tar/iprouting_cmn/internal_inc/iprouting_commands.h
No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 * ---------------------------------------------------------------
 * iprouting_blob_undef.c -- undefined symbols from blob when
 * routing subsytems are pulled out
 * *
 * October, 2002 Phil Winterfield
 * *
 * Copyright (c) 2001-2005, 2007-2008 by cisco Systems, Inc.
 * All rights reserved.
 * ---------------------------------------------------------------
 * $Log$
 * ---------------------------------------------------------------
 * $Endlog$
Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprouting_blob_undef.c

No license file was found, but licenses were detected in source scan.

/* $Id: ip_prefixlist.c,v 1.1 2011/02/02 21:47:40 vkoshi Exp vkoshi $ */
* $Source: /view/vkoshi-comp_routing_rel5.rel4_1_1_19.2460.ss.comp1.port/vob/ss.comp1/routing/iprouting_cmn/src/ip_prefixlist.c,v $
*------------------------------------------------------------------
* Generic prefix list support.
* 
* June 1997, Enke Chen
* 
* Copyright (c) 1997-2012, 2016, 2020 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Log: ip_prefixlist.c,v $
* Revision 1.1  2011/02/02 21:47:40  vkoshi
* checkin by port_commit
* 
* Revision 3.1.2.4  1998/03/20 17:03:32  enkechen
* CSCdj88889: Prefix-list: sho ip prefix-list summ does not pause
* Branch: FIB_branch
* 
* Revision 3.1.2.3  1998/02/23 19:43:44  enkechen
* CSCdj75270: Prefix-list: optimization for downloading large lists
* Branch: FIB_branch
* 
* Revision 3.1.2.2 1998/02/11 01:55:32  soma
* Merge FIB_L3 branch into FIB branch
* 
* Revision 3.1.2.1.8.1 1998/01/29 00:59:02  enkechen
* CSCdj77190: Prefix-list: mishandling of long prefix-list names
* Branch: FIB_L3_branch
* 
* Revision 3.1.2.1 1997/12/17 21:37:00  enkechen
* CSCdj61356: Prefix-list - facility for efficient route filtering
* Branch: FIB_branch
* 
* Revision 3.1 1997/12/17 01:46:33  enkechen
* Start with the new file.
* 
* $Endlog$
*/

Found in path(s):
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_router_network.h,v 3.2.60.1 1996/08/12 16:03:46 widmer Exp $ */
/* $Source: /release/112/cvs/Xsys/iprouting/cfg_router_network.h,v $ */

* CFG_ROUTER_NETWORK.H
* All Rights Reserved
*------------------------------------------------------------------
/* $Log: cfg_router_network.h,v $ */
/* Revision 3.2.60.1 1996/08/12 16:03:46 widmer */
/* CSCdi65725: Create Eolns macro that defaults csb->which to 0 */
/* Branch: California_branch */
/* Add Eolns and Nvgenns macro that default csb->which to 0 */
/* Remove hidden keyword help strings */
/* Revision 3.2 1995/11/17 17:32:18 hampton */
/* Remove old entries from the RCS header logs. */
/* Revision 3.1 1995/11/09 12:05:49 shaker */
/* Bump version numbers from 2.x to 3.x. */
/* Revision 2.2 1995/09/25 08:30:52 tli */
/* CSCdi40960: ISP jumbo patch 2 */
/* Revision 2.1 1995/07/01 12:15:58 tli */
/* CSCdi36508: Rationalize parser file placement, part I */
/* Rationalize iprouting */
/* Revision 2.1 1995/06/07 22:12:56 hampton */
/* Bump version numbers from 1.x to 2.x. */
/**/

Found in path(s):
/* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_network.h */

No license file was found, but licenses were detected in source scan.

/* $Id: cfg_router_redistribute.h,v 3.4.20.3 1996/08/12 16:03:50 widmer Exp $ */
/* $Source: /release/112/cvs/Xsys/iprouting/cfg_router_redistribute.h,v $ */

* CFG_ROUTER_REDIS...
* Warning:
* If you modify this file, please also check cfg_router_topo_redistribute.h
* to see if the changes apply to config-router-topo mode as well.
*
* All Rights Reserved
*------------------------------------------------------------------
* $Log: cfg_router_redistribute.h,v $ *
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_redistribute.h
No license file was found, but licenses were detected in source scan.

/ * $Id$
* $Source$
*------------------------------------------------------------------
* iprouting_init_blob.c -- Partner file (in blob) for iprouting_init.c
* 27-August-2001, Fan Kong
*
* Copyright (c) 2001-2011, 2015, 2019 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprouting_init_blob.c
No license file was found, but licenses were detected in source scan.

/ *------------------------------------------------------------------
* route3_ionized.c
* ION specific route3.c parser functions.
* March 2002, Victor Kamensky
* Copyright (c) 2002, 2005-2008 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
*/
Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/route3_ionized.c
No license file was found, but licenses were detected in source scan.

/* $Id: exec_show_protocols.h,v 3.3.20.1 1996/08/12 16:04:12 widmer Exp $
* $Source: /release/112/cvs/Xsys/iprouting/exec_show_protocols.h,v $
*-------------------------------------------------------------
* EXEC_SHOW_PROTOCOLS.H
*
* All Rights Reserved
*-------------------------------------------------------------
* $Log: exec_show_protocols.h,v $
* Revision 3.3.20.1 1996/08/12 16:04:12 widmer
* CSCdi65725: Create Eolns macro that defaults csb->which to 0
* Branch: California_branch
* Add Eolns and Nvgenns macro that default csb->which to 0
* Remove hidden keyword help strings
*
* Revision 3.3 1996/01/29 07:08:56 hampton
* Remove command number arguments passed to parse routines that only
* perform a single function. [CSCdi47717]
*
* Revision 3.2 1995/11/17 17:33:30 hampton
* Remove old entries from the RCS header logs.
*
* Revision 3.1 1995/11/09 12:07:27 shaker
* Bump version numbers from 2.x to 3.x.
*
* Revision 2.1 1995/07/01 12:16:21 tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting
*
* Revision 2.1 1995/06/07 22:25:21 hampton
* Bump version numbers from 1.x to 2.x.
*
*-------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/exec_show_protocols.h
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_router_neighbor.h,v 3.3.20.1 1996/08/12 16:03:45 widmer Exp $
* $Source: /release/112/cvs/Xsys/iprouting/cfg_router_neighbor.h,v $
*-------------------------------------------------------------
/* Registry for IP route commands in ION
 * September 2001, Rashmi Shrivastava
 * Copyright (c) 2001, 2003-2008 by cisco Systems, Inc.
 * All rights reserved.
 */

/*------------------------------------------------------------------
* routemap_api_util.c -- Dynamic routemap API utility functions.
* May 2003, Tanya Shastri
* Copyright (c) 2003, 2005-2010, 2020 by cisco Systems, Inc.
* All rights reserved.
*/

/*------------------------------------------------------------------
* cfg_router_summary_addr.h
* Supports the router subcommand "summary-address". Provides IP aggregation
* configuration.
* All rights reserved.
* Longer description here.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_summary_addr.h
No license file was found, but licenses were detected in source scan.

/* $Id: route_map.h,v 3.3.12.6 1996/05/04 01:22:42 wilber Exp $
* $Source: /release/112/cvs/Xsys/iprouting/route_map.h,v $
*------------------------------------------------------------------
* policylist.h -- Policy list support data structures
* April 2000, Rex Fernando
* All rights reserved.
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/policylist.h
No license file was found, but licenses were detected in source scan.

/*
*-----------------------------------------------------------
* route_map_blob.c -- Route Map Subsystem
* Aug 2001, Siva Yaragalla
* Copyright (c) 2001-2012, 2014-2018 by cisco Systems, Inc.
* All rights reserved.
*-----------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/route_map_blob.c
No license file was found, but licenses were detected in source scan.

/* $Id: ip_prefixlist.h,v 3.1.2.3 1998/02/23 19:43:44 enkechen Exp $
* $Source: /release/111/cvs/Xsys/ip/ip_prefixlist.h,v $
*------------------------------------------------------------------
* Generic prefix list support.
* June 1997, Enke Chen
* Copyright (c) 1997-2008, 2010 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Log: ip_prefixlist.h,v $
* Revision 3.1.2.3  1998/02/23 19:43:44  enkechen
* CSCdj75270: Prefix-list: optimization for downloading large lists
* Branch: FIB_branch
* 
* Revision 3.1.2.2  1998/02/11 01:55:34  soma
* Merge FIB_L3 branch into FIB branch
* 
* Revision 3.1.2.1.8.1  1998/01/29 01:02:13  enkechen
* CSCdj77191: Reduce several chunk size parameters to save memory
* Branch: FIB_L3_branch
* 
* Revision 3.1.2.1  1997/12/17 21:37:00  enkechen
* CSCdj61356: Prefix-list - facility for efficient route filtering
* Branch: FIB_branch
* 
* Revision 3.1  1997/12/17 01:46:32  enkechen
* Start with the new file.
* 
* $Endlog$
* /

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/ip_prefixlist.h
No license file was found, but licenses were detected in source scan.

/*--------------------------------------------------------------
* router_topology_registry.c
* 
* Router topology registry.
* 
* Sept 2004, Mercia Zheng
* 
* Copyright (c) 2004-2005, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*--------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/router_topology_registry.c
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_router_distance.h,v 3.2.60.1 1996/05/04 01:21:16 wilber Exp $
The bgp version must come before the weight version so that both NVGEN
and normal processing happen correctly.

All rights reserved.

Constrained Multicast Flooding
- Define MOSPF hello option bit.

Name Access List

Revision 3.2 1995/11/17 17:32:05 hampton
Remove old entries from the RCS header logs.

Revision 3.1 1995/11/09 12:05:29 shaker
Bump version numbers from 2.x to 3.x.

Revision 2.1 1995/07/01 12:15:50 tli
CSCdi36508: Rationalize parser file placement, part I
Rationalize iprouting

Revision 2.1 1995/06/07 22:12:30 hampton
Bump version numbers from 1.x to 2.x.

Mercia Zheng, Jan 2006
Copyright (c) 2006-2008 by cisco Systems, Inc.
* All rights reserved.
*---------------------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/protofltr_debug.c
No license file was found, but licenses were detected in source scan.

/*
*-----------------------------------------------------------------------
* cfg_router_topology.h - router topology configuration mode command
* *
* Sept 2004, Mercia Zheng
* *
* All rights reserved.
*-----------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_router_topology.h
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*-----------------------------------------------------------------------
* Registry for routing context for RP and LC common code.
* *
* September 2009, Derek Yeung
* *
* Copyright (c) 2009 by cisco Systems, Inc.
* All rights reserved.
*-----------------------------------------------------------------------
* $Log$
*-----------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/routing_context_registry.h
No license file was found, but licenses were detected in source scan.

/*-----------------------------------------------------------------------
* exec_routing_context.h
* *
* This file defines the routing-context command syntax.
* */
No license file was found, but licenses were detected in source scan.

/*
 *------------------------------------------------------------------
 * cfg_router_topology_exit.h - Exit from router topology sub mode.
 * *
 * Sept 2004, Mercia Zheng
 * *
 * Copyright (c) 2004, 2006-2009 by cisco Systems, Inc.
 * All rights reserved.
 *------------------------------------------------------------------
 */

Found in path(s):
*/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_router_topology_exit.h

No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 *------------------------------------------------------------------
 * protofltr.c -- Routing protocol filter manager support routines
 * *
 * Jan 2006, Mercia Zheng
 * *
 * Copyright (c) 2005-2011, 2020 by cisco Systems, Inc.
 * All rights reserved.
 *------------------------------------------------------------------
 * $Log$
 *------------------------------------------------------------------
 * $Endlog$
 */

Found in path(s):
*/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/protofltr.c

No license file was found, but licenses were detected in source scan.

/*
 *------------------------------------------------------------------
 * protofltr_debug_flags.h -- Protofltr manager debug flags declarations
 * *
 * Jan 2006, Mercia Zheng
 * *
 * Copyright (c) 2005-2008 by Cisco Systems, Inc.
 * All rights reserved.
 *------------------------------------------------------------------
 */

Found in path(s):
No license file was found, but licenses were detected in source scan.

/*-----------------------------------------------*/
/* routemap_internal.c -- Internal functions of routemap code. *
/* May 2003, Tanya Shastri *
/* Copyright (c) 2003, 2005-2009, 2011-2019 by cisco Systems, Inc. *
/* All rights reserved. */
/*-----------------------------------------------*/
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmnm/src/routemap_internal.c
No license file was found, but licenses were detected in source scan.

/*-----------------------------------------------*/
/* policylist_ionized.c - Routines to handle policy-list commands for IONized processes. *
/* November 2003, Siva Yaragalla *
/* Copyright (c) 2003-2005, 2007-2008 by cisco Systems, Inc. *
/* All rights reserved. */
/*-----------------------------------------------*/
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmnm/src/policylist_ionized.c
No license file was found, but licenses were detected in source scan.

/* $Id: iprouting_actions.h,v 3.2 1995/11/17 17:34:39 hampton Exp $ */
/* $Source: /swtal/cherf.111/ios/sys/iprouting/iprouting_actions.h,v $ */
/* IP routing specific parsing functions. *
/* August 1994, Bruce Cole *
/* Copyright (c) 1994, 2004-2008, 2015 by cisco Systems, Inc. *
/* All rights reserved. */
/* $Log: iprouting_actions.h,v $ */
/* Revision 3.2 1995/11/17 17:34:39 hampton */
/* Remove old entries from the RCS header logs. *
/* Revision 3.1 1995/11/09 12:08:30 shaker */
* Bump version numbers from 2.x to 3.x.
* 
* Revision 2.1 1995/06/07 21:07:35 hampton
* Bump version numbers from 1.x to 2.x.
* 
*----------------------------------------------------------------------
* $Endlog$
*/

No license file was found, but licenses were detected in source scan.

/* $Id: exec_debug_ip_routing.h,v 3.3.20.1 1996/06/27 04:40:57 mikel Exp $ */

* May 1993, Robert Widmer
* 
* Copyright (c) 1993-2003, 2005-2009, 2019 by cisco Systems, Inc.
* All rights reserved.
* 
*----------------------------------------------------------------------
* $Log: exec_debug_ip_routing.h,v $ 
* Revision 3.3.20.1 1996/06/27 04:40:57 mikel
* CSCdi37749: <debug ip eigrp> help wrong
* Branch: California_branch
* clean up ip-eigrp AS debugging
* 
* Revision 3.3 1996/02/01 23:34:07 widmer
* CSCDi45325: Change Keyword/Set to use Keyword_Id macro
* 
* Revision 3.2 1995/11/17 17:33:17 hampton
* Remove old entries from the RCS header logs.
* 
* Revision 3.1 1995/11/09 12:07:09 shaker
* Bump version numbers from 2.x to 3.x.
* 
* Revision 2.2 1995/11/08 21:06:22 shaker
* Merge Arkansas_branch into 11.1 mainline.
* 
* Revision 2.1 1995/07/01 12:16:15 tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting
* 
* Revision 2.1 1995/06/07 22:18:58 hampton
* Bump version numbers from 1.x to 2.x.
Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 151

* $Endlog$
*

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/exec_debug_ip_routing.h
No license file was found, but licenses were detected in source scan.

/*
* msg_iproute.c - Message file for iproute facility
*
* July 17, 1990, Kevin Paul Herbert
*
* Copyright (c) 1990-2013, 2015-2017, 2019 by Cisco Systems, Inc.
* All rights reserved.
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/msg_iproute.rc
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_routemap_exit.h,v 3.2.60.1 1996/08/12 16:03:34 widmer Exp $ */
* $Source: /release/112/cvs/Xsys/iprouting/cfg_routemap_exit.h,v $ 
*----------------------------------------------------------------------
* cfg_routemap_exit.h
*
* exit - exit from route-map configuration mode
*
* All Rights Reserved
*----------------------------------------------------------------------
* $Log: cfg_routemap_exit.h,v $
* Revision 3.2.60.1 1996/08/12 16:03:34 widmer
* CSCdi65725: Create Eolns macro that defaults csb->which to 0
* Branch: California_branch
* Add Eolns and Nvgenns macro that default csb->which to 0
* Remove hidden keyword help strings
*
* Revision 3.2 1995/11/17 17:31:42 hampton
* Remove old entries from the RCS header logs.
*
* Revision 3.1 1995/11/09 12:05:03 shaker
* Bump version numbers from 2.x to 3.x.
*
* Revision 2.1 1995/07/01 12:15:44 tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting
*
* Revision 2.1 1995/06/07 22:12:09 hampton
* Bump version numbers from 1.x to 2.x.
* 
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_routemap_exit.h
No license file was found, but licenses were detected in source scan.

/*
* routemap_track.c -- Route map support for tracking
* Functions which run on RP (not VIP).
* 
* March 2003 Shyan Wignarajah
* 
* Copyright (c) 2003-2008, 2013-2014 by cisco Systems, Inc.
* All rights reserved.
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/routemap_track.c
No license file was found, but licenses were detected in source scan.

/* $Id: iprouting_setup.c,v 3.4.4.1 1996/06/28 01:21:03 snyder Exp $*/

* IP Routing setup commands
* 
* May 1993, Robert Widmer
* 
* All rights reserved.
* 
* $Log: iprouting_setup.c,v $*/

You get space back for the pointer
You get space back for each reference
* cfg_routemap_match_ip.h -- IP specific route-map clauses
*
* March 1995 Tony Li
*
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*
/* Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_routemap_match_ip.h
No license file was found, but licenses were detected in source scan.
*/

/* routemap_api.h -- Dynamic routemap API definitions.
* 
* May 2003, Tanya Shastri
* 
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*/

/* Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/routemap_api.h
No license file was found, but licenses were detected in source scan.
*/

/* $Id$
* $Source$
*------------------------------------------------------------------
* iprouting_init_ionized.c - ION specific IP Routing Protocol support.
* 
* September 2001, Chandra Appanna
* 
* Copyright (c) 2001-2012 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*/

/* Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprouting_init_ionized.c
No license file was found, but licenses were detected in source scan.

/*
 *------------------------------------------------------------------
 * Generic route tag list support.
 *------------------------------------------------------------------
 * June 2011, Karthik Subramaniam
 *------------------------------------------------------------------
 * Copyright (c) 1997-2008, 2010-2012 by cisco Systems, Inc.
 * All rights reserved.
 *------------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/routetag_list.h

No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 *------------------------------------------------------------------
 * IP routing clear commands
 *------------------------------------------------------------------
 * May 1993, Robert Widmer
 *------------------------------------------------------------------
 * All rights reserved.
 *------------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/exec_clear_ip_routing.h

No license file was found, but licenses were detected in source scan.

 * $Source: /swtal/cherf.111/ios/sys/iprouting/cfg_router_metric.h,v $
 *------------------------------------------------------------------
 * CFG_ROUTER METRIC .H
 *------------------------------------------------------------------
 * All Rights Reserved
 *------------------------------------------------------------------
 */
* Revision 3.2 1995/11/17 17:32:13 hampton
* Remove old entries from the RCS header logs.
 *
* Revision 3.1 1995/11/09 12:05:41 shaker
* Bump version numbers from 2.x to 3.x.
 *
* Revision 2.1 1995/07/01 12:15:54 tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting
 *
* Revision 2.1 1995/06/07 22:12:46 hampton
* Bump version numbers from 1.x to 2.x.
*
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_metric.h

No license file was found, but licenses were detected in source scan.

/* $Id: cfg_router_timers.h,v 3.2.60.1 1996/04/15 21:17:46 bcole Exp $ */
* $Source: /release/112/cvs/Xsys/iprouting/cfg_router_timers.h,v $ */
* CFG_ROUTER_TIMERS.H
*
* All Rights Reserved
*------------------------------------------------------------------
* $Log: cfg_router_timers.h,v $
* Revision 3.2.60.1 1996/04/15 21:17:46 bcole
* CSCdi54649: IP Host Modularity, IP Automatic Stub Routing feature
* commit
* Branch: California_branch
*
* Revision 3.2 1995/11/17 17:32:28 hampton
* Remove old entries from the RCS header logs.
*
* Revision 3.1 1995/11/09 12:06:09 shaker
* Bump version numbers from 2.x to 3.x.
*
* Revision 2.1 1995/07/01 12:16:04 tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting
*
* Revision 2.1 1995/06/07 22:13:13 hampton
* Bump version numbers from 1.x to 2.x.
Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_timers.h
No license file was found, but licenses were detected in source scan.

*/
* $Id
* $Source
*------------------------------------------------------------------
* iprib_api_svr.c -- IP Routing Information Base (RIB) API definitions
*
* August-2001, Fan Kong
*
* Copyright (c) 2001-2012, 2019 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Log
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprib_api_svr.c
No license file was found, but licenses were detected in source scan.

/*------------------------------------------------------------------
* router_topology_registry.h
*
* Router topology registry.
*
* Sept 2004, Mercia Zheng
*
* Copyright (c) 2004, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
* __________________________________________________
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/router_topology_registry.h
No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 * __________________________________________________
 * iprouting_debug.c -- Debugging routines for IP routing
 * 
 * May 1993, John Bashinski
 * 
 * Copyright (c) 1993-2010, 2019 by Cisco Systems, Inc.
 * All rights reserved.
 * __________________________________________________
 * $Log$
 * __________________________________________________
 * $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/iprouting_debug.c
No license file was found, but licenses were detected in source scan.

#
# iprouting_api.enum - IP Routing public API enum definitions
#
# August 2009, Prashant Srinivas
#
# Copyright (c) 2009-2010 by cisco Systems, Inc.
# All rights reserved.
# __________________________________________________
#
BEGIN IPROUTING_API

#
# Enumeration of the possible reasons for disabling routing on an interface
#
# Note, string length of the LONG description, should be <= 16 chars,
# and contain nothing but alfanumerical characters and _
#
ENUM routing_disable_flag_t
ITEM ROUTING_DISABLE_FLAG_INT_IF
LONG "Internal_IF"
END ITEM

END ENUM

END

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/enum/iprouting_api.enum
No license file was found, but licenses were detected in source scan.

/*
*---------------------------------------------------------------
* route_map_ion.h - Route map support data structures specific to ION.
* *
* January 2002, Siva Yaragalla
* *
* Copyright (c) 2002-2009, 2011 by cisco Systems, Inc.
* All rights reserved.
*---------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/route_map_ion.h
No license file was found, but licenses were detected in source scan.

/*---------------------------------------------------------------
* route3_blob.c
* *
* IOS and blob specific route3.c parser functions.
* *
* March 2002, Victor Kamensky
* *
* Copyright (c) 2002-2003, 2005, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*---------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/route3_blob.c
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*---------------------------------------------------------------
* cfg_routemap_match.h
* Process route-map match subcommands.
* 
* All rights reserved.
* .................................................................
* $Log$
* .................................................................
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_routemap_match.h
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_router.h,v 3.2.60.2 1996/08/12 16:03:38 widmer Exp $ */
* $Source: /release/112/cvs/Xsys/iprouting/cfg_router.h,v $ */

* CFG__ROUTER.H
*
* Enter router subcommand mode
*
* All rights reserved.
* .................................................................
* $Log: cfg_router.h,v $ 
* Revision 3.2.60.2 1996/08/12 16:03:38 widmer
* CSCdi65725: Create Eolns macro that defaults csb->which to 0
* Branch: California_branch
* Add Eolns and Nvgenns macro that default csb->which to 0
* Remove hidden keyword help strings
* 
* Revision 3.2.60.1 1996/04/15 21:17:43 bcole
* CSCdi54649: IP Host Modularity, IP Automatic Stub Routing feature
* commit
* Branch: California_branch
*
* Revision 3.2 1995/11/17 17:31:56 hampton
* Remove old entries from the RCS header logs.
* 
* Revision 3.1 1995/11/09 12:05:20 shaker
* Bump version numbers from 2.x to 3.x.
* 
* Revision 2.1 1995/07/01 12:15:46 tli
* CSCdi36508: Rationalize parser file placement, part I
* Rationalize iprouting
* 
* Revision 2.1 1995/06/07 22:12:17 hampton
* Bump version numbers from 1.x to 2.x.
* 
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_router.h
No license file was found, but licenses were detected in source scan.

/*  
 * routing_context.c
 * 
 * This file has global definitions for routing context support
 * common to blob and iprouting proceses.
 * 
 * March 2009, Derek Yeung
 * 
 * Copyright (c) 2009 by cisco Systems, Inc.
 * All rights reserved.
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/routing_context.c
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_routemap_match_policy.h,v 3.3 1995/11/28 19:50:34 widmer Exp $ 
* $Source: /swtal/cherf.111/ios/sys/iprouting/cfg_routemap_match_policy.h,v $ 
* cfg_routemap_match_policy.h -- Route map match clauses for policy
* routing.
* 
* Mar 1995 Tony Li
* 
* All rights reserved.
 */

$Log: cfg_routemap_match_policy.h,v $ 
Revision 3.3 1995/11/28 19:50:34 widmer
CSCdi44251: Replace Ifelse(csb->in_help)/Eval with Func
* 
* Revision 3.2 1995/11/17 17:31:48 hampton
* Remove old entries from the RCS header logs.
* 
* Revision 3.1 1995/11/09 12:05:10 shaker
* Bump version numbers from 2.x to 3.x.
* 

* Revision 2.3  1995/06/21  18:16:00  widmer
* CSCdi36227: Fix parse chain alternates
* 
* Revision 2.2  1995/06/15  15:18:44  widmer
* CSCdi35889: parser transition structures should be static
* 
* Revision 2.1  1995/06/07  21:05:32  hampton
* Bump version numbers from 1.x to 2.x.
* 
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/cfg_routemap_match_policy.h
No license file was found, but licenses were detected in source scan.

/*
* ************************************************************************/
* Generic tag list support.
* *
* June 2011, Karthik Subramaniam
* *
* Copyright (c) 1997-2008, 2010-2012 by cisco Systems, Inc.
* All rights reserved.
* ************************************************************************/
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/routetag_list.c
No license file was found, but licenses were detected in source scan.

/*
* route3_parse.h
* *
* Route parser functions declarations.
* *
* March 2002, Victor Kamensky
* *
* Copyright (c) 2002, 2005-2008 by cisco Systems, Inc.
* All rights reserved.
* ************************************************************************/
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/route3_parse.h
No license file was found, but licenses were detected in source scan.

/*
 *---------------------------------------------------------------
 * route_map_nbcmn.c -- Route map support non-Blob common routines
 * *
 * October 2001, Siva Yaragalla
 * *
 * Copyright (c) 2001-2013, 2018, 2020 by cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------------------------
 */

Found in path(s):
 * /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/route_map_nbcmn.c
No license file was found, but licenses were detected in source scan.

/*
 *---------------------------------------------------------------
 * ip_prefixlist_chain.c - Parse chains for IP Prefix Lists
 * *
 * August 2001, Siva Yaragalla
 * *
 * Copyright (c) 2001-2008 by cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------------------------
 */

Found in path(s):
 * /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/ip_prefixlist_chain.c
No license file was found, but licenses were detected in source scan.

/*-----------------------------------------------
 * routing_context.h - Routing Context library API
 * *
 * March 2009, Derek Yeung
 * *
 * Copyright (c) 2009 by cisco Systems, Inc.
 * All rights reserved.
 *-----------------------------------------------
 */

Found in path(s):
 * /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/routing_context.h
No license file was found, but licenses were detected in source scan.

/*-----------------------------------------------
 * route_map_registry.c
 */
*------------------------------------------------------------------*
* $Endlog$
*/

Found in path(s):
*/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/ip_routing.h
No license file was found, but licenses were detected in source scan.

/ *
* ------------------------------------------------------------------*
* route_capability.h
*
* August 2003, Peter Psenak
*
* All rights reserved.
* ------------------------------------------------------------------*
*/

Found in path(s):
*/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/route_capability.h
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_int_ip2_routing.h,v 3.2.60.1 1996/08/12 16:03:24 widmer Exp $*
* $Source: /release/112/cvs/Xsys/iprouting/cfg_int_ip2_routing.h,v,v $*
*------------------------------------------------------------------*
* cfg_int_ip2_routing.h
*
* May 1994, Derek Yeung
*
* All rights reserved.
* *
* IP routing interface commands that must be after the encapsulation command
* in NV order.
*------------------------------------------------------------------*
* $Log: cfg_int_ip2_routing.h,v $*
* Revision 3.2.60.1 1996/08/12 16:03:24 widmer
* CSCdi65725: Create Eolns macro that defaults csb->which to 0
* Branch: California_branch
* Add Eolns and Nvgenns macro that default csb->which to 0
* Remove hidden keyword help strings
* *
* Revision 3.2 1995/11/17 17:31:23 hampton
* Remove old entries from the RCS header logs.
* *
* Revision 3.1 1995/11/09 12:04:31 shaker
* Bump version numbers from 2.x to 3.x.
Revision 2.2 1995/08/04 03:07:45 dstine
CSCdi37681: Need event logging for EIGRP

Revision 2.1 1995/07/01 12:15:32 tli
CSCdi36508: Rationalize parser file placement, part I
Rationalize iprouting

Revision 2.1 1995/06/07 22:05:27 hampton
Bump version numbers from 1.x to 2.x.

$Endlog$
*/

Found in path(s):
/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_int_ip2_routing.h
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*------------------------------------------------------------------
* cfg_route_map.h
*
* Enter route-map subcommand mode
*
* All rights reserved.
*------------------------------------------------------------------
* $Log$
*------------------------------------------------------------------
* $Endlog$
*/

Found in path(s):
/opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_route_map.h
No license file was found, but licenses were detected in source scan.

/* $Id: cfg_routemap_set_ip_policy.h,v 3.3.52.1 1996/06/18 19:06:39 widmer Exp $
* $Source: /release/112/cvs/Xsys/iprouting/cfg_routemap_set_ip_policy.h,v $
*------------------------------------------------------------------
* cfg_routemap_set_ip_policy.h -- IP policy specific route map clauses
*
* Mar 1995 Tony Li
*
* All rights reserved.
*------------------------------------------------------------------
Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_passive-interface.h

No license file was found, but licenses were detected in source scan.

/* $Id: cfg_ip_prefixlist.h,v 3.1.2.2 1998/02/23 19:43:42 enkechen Exp $ */
* $Source: /release/111/cvs/Xsys/ip.cfg_ip_prefixlist.h,v $ *------------------------------------------------------------------
*  * $Log:  * $Endlog$ */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/cfg_ip_prefixlist.h

No license file was found, but licenses were detected in source scan.

/* */
*------------------------------------------------------------------
route_map_http_ion.c

March, 2003  Phil Winterfield

Copyright (c) 2003-2004, 2006-2008 by cisco Systems, Inc.
* All rights reserved.

Route map http ion.c

route_map_http_ion.c

March, 2003  Phil Winterfield

Copyright (c) 2003-2004, 2006-2008 by cisco Systems, Inc.
* All rights reserved.

Policylist ios.c - IOS stubs for notification routines
* in policylist code
* Jun 2005, Tony P. Ambalathingal

Copyright (c) 2003, 2005, 2007-2008 by cisco Systems, Inc.
* All rights reserved.

Policylist ios.c - IOS stubs for notification routines
* in policylist code
* Jun 2005, Tony P. Ambalathingal

Copyright (c) 2003, 2005, 2007-2008 by cisco Systems, Inc.
* All rights reserved.

* policylist_ios.c - IOS stubs for notification routines
* in policylist code
* Jun 2005, Tony P. Ambalathingal

Copyright (c) 2003, 2005, 2007-2008 by cisco Systems, Inc.
* All rights reserved.

No license file was found, but licenses were detected in source scan.
No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 *------------------------------------------------------------------
 * cfg_router_flash-threshold.h
 *
 * January 1998, 2001 Dawn Li
 *
 * All rights reserved.
 *------------------------------------------------------------------
 * $Log$
 *------------------------------------------------------------------
 * $Endlog$
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/cfg_router_flash-threshold.h
No license file was found, but licenses were detected in source scan.

/*
 *------------------------------------------------------------------
 * ip_prefixlist_ion.h - IP Prefix Lists support for ION
 *
 * June 2002, Siva Yaragalla
 *
 * All rights reserved.
 *------------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/include/ip_prefixlist_ion.h
No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 *------------------------------------------------------------------
 * router_topology_chain.c - Parser chains of router topology sub mode
 * for multi-topology routing support
 * Sept 2004, Mercia Zheng
 *
 * Copyright (c) 2004-2010, 2019 by cisco Systems, Inc.
 * All rights reserved.
 *------------------------------------------------------------------
 * $Log$
Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/router_topology_chain.c
No license file was found, but licenses were detected in source scan.

* $Id$
* $Source$
*------------------------------------------------------------------
* exec_show_ip_extcommunity-list.h
* April 2000, Rex Fernando
* Copyright (c) 2000, 2002-2003, 2007-2008 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
* $Endlog$

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/internal_inc/exec_show_ip_policylist.h
No license file was found, but licenses were detected in source scan.

/****************************************************************************
* router_af_parse_blob.c
* Address family submode command - proxy EOLs
* May 2002, Victor Kamensky
* Copyright (c) 2002-2005, 2007-2009 by cisco Systems, Inc.
* All Rights Reserved
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130450046_1615190725.52/0/iproute-254-tar/iprouting_cmn/src/router_af_parse_blob.c
No license file was found, but licenses were detected in source scan.

/****************************************************************************
* policylist_blob.c - Routines to handle policy-list commands.
* Common for IOS and ION Blob.
* November 2003, Siva Yaragalla
1.3 musl 1.1.24-r0

1.3.1 Available under license:

Musl as a whole is licensed under the following standard MIT license:


Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Authors/contributors include:

A. Wilcox
Alex Dowad
Alex Suykov
Alexander Monakov
Andre McCurdy
Andrew Kelley
Anthony G. Basile
Aric Belsito
Arvid Picciani
Bartosz Brachaczek
Benjamin Peterson
Bobby Bingham
Boris Brezillon
Brent Cook
Chris Spiegel
Clément Vasseur
Daniel Micay
Daniel Sabogal
Daurnimator
David Carlier
David Edelsohn
Denys Vlasenko
Dmitry Ivanov
Dmitry V. Levin
Drew DeVault
Emil Renner Berthing
Fangrui Song
Felix Fietkau
Felix Janda
Gianluca Anzolin
Hauke Mehrtens
He X
Hiljto Posthuma
Isaac Dunham
Jaydeep Patil
Jens Gustedt
Jeremy Huntwork
Jo-Philipp Wich
Joakim Sindholt
John Spencer
Josiah Worcester
Julien Ramseier
Justin Cormack
Kaarle Ritvanen
Khem Raj
Kylie McClain
Leah Neukirchen
Luca Barbato
Luka Perkov
M Farkas-Dyck (Strake)
Mahesh Bodapati
Markus Wichmann
Masanori Ogino
Michael Clark
Michael Forney
Mikhail Kremnyov

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 173
Portions of this software are derived from third-party works licensed under terms compatible with the above MIT license:

The TRE regular expression implementation (src/regex/reg* and src/regex/tre*) is Copyright 2001-2008 Ville Laurikari and licensed under a 2-clause BSD license (license text in the source files). The included version has been heavily modified by Rich Felker in 2012, in the interests of size, simplicity, and namespace cleanliness.

Much of the math library code (src/math/* and src/complex/*) is Copyright 1993,2004 Sun Microsystems or Copyright 2003-2011 David Schultz or Copyright 2003-2009 Steven G. Kargl or Copyright 2003-2009 Bruce D. Evans or Copyright 2008 Stephen L. Moshier or Copyright 2017-2018 Arm Limited and labelled as such in comments in the individual source files. All have been licensed under extremely permissive terms.

The ARM memcpy code (src/string/arm/memcpy_el.S) is Copyright 2008 The Android Open Source Project and is licensed under a two-clause BSD
license. It was taken from Bionic libc, used on Android.

The implementation of DES for crypt (src/crypt/crypt_des.c) is Copyright 1994 David Burren. It is licensed under a BSD license.

The implementation of blowfish crypt (src/crypt/crypt_blowfish.c) was originally written by Solar Designer and placed into the public domain. The code also comes with a fallback permissive license for use in jurisdictions that may not recognize the public domain.

The smoothsort implementation (src/stdlib/qsort.c) is Copyright 2011 Valentin Ochs and is licensed under an MIT-style license.

The x86_64 port was written by Nicholas J. Kain and is licensed under the standard MIT terms.

The mips and microblaze ports were originally written by Richard Pennington for use in the ellcc project. The original code was adapted by Rich Felker for build system and code conventions during upstream integration. It is licensed under the standard MIT terms.

The mips64 port was contributed by Imagination Technologies and is licensed under the standard MIT terms.

The powerpc port was also originally written by Richard Pennington, and later supplemented and integrated by John Spencer. It is licensed under the standard MIT terms.

All other files which have no copyright comments are original works produced specifically for use as part of this library, written either by Rich Felker, the main author of the library, or by one or more contributors listed above. Details on authorship of individual files can be found in the git version control history of the project. The omission of copyright and license comments in each file is in the interest of source tree size.

In addition, permission is hereby granted for all public header files (include/* and arch/*/bits/*) and crt files intended to be linked into applications (crt/*, ldso/dlstart.c, and arch/*/crt_arch.h) to omit the copyright notice and permission notice otherwise required by the license, and to use these files without any requirement of attribution. These files include substantial contributions from:

Bobby Bingham
John Spencer
Nicholas J. Kain
Rich Felker
Richard Pennington
Stefan Kristiansson
Szabolcs Nagy

all of whom have explicitly granted such permission.

This file previously contained text expressing a belief that most of the files covered by the above exception were sufficiently trivial not to be subject to copyright, resulting in confusion over whether it negated the permissions granted in the license. In the spirit of permissive licensing, and of not having licensing issues being an obstacle to adoption, that text has been removed.

1.4 lua-cjson 2.1.0
1.4.1 Available under license :
Copyright (c) 2010-2012 Mark Pulford <mark@kyne.com.au>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

1.5 slang 2.3.2
1.5.1 Available under license :
\chapter{Copyright}
The \slang library is distributed under the terms of the GNU General Public License.

\sect{The GNU Public License}
\v+

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.  
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.
Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program or with a work based on the Program on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such
parties remain in full compliance.

5. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Program or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the
Program), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the
Program), the recipient automatically receives a license from the
original licensor to copy, distribute or modify the Program subject to
these terms and conditions. You may not impose any further
restrictions on the recipients’ exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

#v+

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

#v-

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA  02111-1307  USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General Public License instead of this License.

\sect{The Unicode Inc. Copyright}
This software makes use of the Unicode tables published by Unicode, Inc under the following terms:

#v+

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1991-2009 Unicode, Inc. All rights reserved. Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that (a) the above copyright notice(s) and this permission notice appear with all copies of the Data Files or Software, (b) both the above copyright notice(s) and this permission notice appear in associated documentation, and (c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software that the data or software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

#v-

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third
c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.
<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy  <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA  02111-1307  USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

  Gnomovision version 69, Copyright (C) 19yy name of author
  Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
  This is free software, and you are welcome to redistribute it
  under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License.  Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary.  Here is a sample; alter the names:

  Yoyodyne, Inc., hereby disclaims all copyright interest in the program
  `Gnomovision' (which makes passes at compilers) written by James Hacker.

  <signature of Ty Coon>, 1 April 1989
  Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs.  If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library.  If this is what you want to do, use the GNU Library General
Public License instead of this License.
1.6 util-linux 2.34.0
1.6.1 Available under license:

/*
 *  Copyright (c) 1989 The Regents of the University of California.
 *  All rights reserved.
 *
 *  Redistribution and use in source and binary forms, with or without
 *  modification, are permitted provided that the following conditions
 *  are met:
 *  1. Redistributions of source code must retain the above copyright
 *     notice, this list of conditions and the following disclaimer.
 *  2. Redistributions in binary form must reproduce the above copyright
 *     notice, this list of conditions and the following disclaimer in the
 *     documentation and/or other materials provided with the distribution.
 *  3. All advertising materials mentioning features or use of this software
 *     must display the following acknowledgement:
 *     This product includes software developed by the University of
 *     California, Berkeley and its contributors.
 *  4. Neither the name of the University nor the names of its contributors
 *     may be used to endorse or promote products derived from this software
 *     without specific prior written permission.
 *
 *  THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
 *  ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
 *  IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
 *  ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
 *  FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
 *  DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
 *  OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
 *  HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
 *  LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
 *  OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
 *  SUCH DAMAGE.
 */

NR START   END SECTORS SIZE NAME UUID
1  32  7679  7648 3.7M      8f8378c0-01
2  7680 16383  8704 4.3M      8f8378c0-02
5  7936 12799  4864 2.4M
6 12544 16127  3584 1.8M
This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.
The complete text of the license is available in the
../Documentation/licenses/COPYING.LGPL-2.1-or-later file.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <https://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program—to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains
that there is no warranty for this free software. For both users' and
authors' sake, the GPL requires that modified versions be marked as
changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a
computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically
linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or
modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an
"aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.
e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and
protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that
material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under
this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or
hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software
Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS
How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <https://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License. But first, please read

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of
this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be
allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation
Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library’s complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the Library even though the source code is not.
Whether this is true is especially significant if the work can be
linked without the Library, or if the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data
structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
work. (Executables containing this object code plus portions of the
Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may
distribute the object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or
link a "work that uses the Library" with the Library to produce a
work containing portions of the Library, and distribute that work
under terms of your choice, provided that the terms permit
modification of the work for the customer's own use and reverse
engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the
Library is used in it and that the Library and its use are covered by
this License. You must supply a copy of this License. If the work
during execution displays copyright notices, you must include the
copyright notice for the Library among them, as well as a reference
directing the user to the copy of this License. Also, you must do one
of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.
7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

   a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

   b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>
This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not
Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in

---

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 218
the term "modification". Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.
If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.
It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
Otherwise stated in writing the copyright holders and/or other parties provide the program "as is" without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The entire risk as to the quality and performance of the program is with you. Should the program prove defective, you assume the cost of all necessary servicing, repair or correction.

12. In no event unless required by applicable law or agreed to in writing will any copyright holder, or any other party who may modify and/or redistribute the program as permitted above, be liable to you for damages, including any general, special, incidental or consequential damages arising out of the use or inability to use the program (including but not limited to loss of data or data being rendered inaccurate or losses sustained by you or third parties or a failure of the program to operate with any other programs), even if such holder or other party has been advised of the possibility of such damages.

End of terms and conditions

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, and the entire permission notice in its entirety, including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

This library is free software; you can redistribute it and/or
modify it under the terms of the Modified BSD License.
The complete text of the license is available in the
../Documentation/licenses/COPYING.BSD-3-Clause file.

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later
version.
The complete text of the license is available in the
../Documentation/licenses/COPYING.LGPL-2.1-or-later

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
1.7 tar 1.32
1.7.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program—to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based
on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's
System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.
When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.
A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a
requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or
e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that
copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this
License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy’s public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

1.8 ca-certificates 20191127-r0

1.8.1 Available under license:

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such
parties remain in full compliance.
5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY 
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER 
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE 
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest 
possible use to the public, the best way to achieve this is to make it 
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest 
to attach them to the start of each source file to most effectively 
convey the exclusion of warranty; and each file should have at least 
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify 
it under the terms of the GNU General Public License as published by 
the Free Software Foundation; either version 2 of the License, or 
(at your option) any later version.

This program is distributed in the hope that it will be useful, 
but WITHOUT ANY WARRANTY; without even the implied warranty of 
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the 
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along 
with this program; if not, write to the Free Software Foundation, Inc., 
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this 
when it starts in an interactive mode:

  Gnomovision version 69, Copyright (C) year name of author
  Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'.
  This is free software, and you are welcome to redistribute it 
  under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate 
parts of the General Public License. Of course, the commands you use may 
be called something other than 'show w' and 'show c'; they could even be
mouse-clicks or menu items—whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.
1.9 libgpg-error 1.36

1.9.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations
below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.
To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it
does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the
"Library" means either the Library or any derivative work under copyright law; that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

   c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

   d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility
is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.
4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work
under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is
normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

   a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

   b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further
restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
1.10.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007, 2011 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains
that there is no warranty for this free software. For both users' and
authors' sake, the GPL requires that modified versions be marked as
changed, so that their problems will not be attributed erroneously to
Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying,
distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require,
such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's
users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.
e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.
Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of
it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently
reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party’s predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted
by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of
the GNU General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the
Program specifies that a certain numbered version of the GNU General
Public License "or any later version" applies to it, you have the
option of following the terms and conditions either of that numbered
version or of any later version published by the Free Software
Foundation. If the Program does not specify a version number of the
GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs
If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License. But first, please read

1.11 zlib 1.2.11

1.11.1 Available under license :
/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.11, January 15th, 2017

Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied
warranty. In no event will the authors be held liable for any damages
arising from the use of this software.

Permission is granted to anyone to use this software for any purpose,
including commercial applications, and to alter it and redistribute it
freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not
claim that you wrote the original software. If you use this software
in a product, an acknowledgment in the product documentation would be
appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be
misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly        Mark Adler
jloup@gzip.org          madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for
(zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).
*/

1.12 c-ares 1.15.0

1.12.1 Available under license :
# c-ares license

Copyright (c) 2007 - 2018, Daniel Stenberg with many contributors, see AUTHORS
file.

Copyright 1998 by the Massachusetts Institute of Technology.
Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted, provided that
the above copyright notice appear in all copies and that both that copyright
notice and this permission notice appear in supporting documentation, and that
the name of M.I.T. not be used in advertising or publicity pertaining to
distribution of the software without specific, written prior permission.
M.I.T. makes no representations about the suitability of this software for any
purpose. It is provided "as is" without express or implied warranty.

1.13 pam 1.3.1-14.el8
1.13.1 Available under license :
No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 *------------------------------------------------------------------
 * pam_policy.h : includes for onep pam related
 * routines
 * June 2011, c3pl-dev
 *
 * Copyright (c) 2011 by cisco Systems, Inc.
 * All rights reserved.
 *------------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/include/pam_policy.h
No license file was found, but licenses were detected in source scan.

/*---------------------------------------------
 * pam_client_typedef.h
 *
 * Aug 2011, c3pl-dev
 *
 * Copyright (c) 2011 by Cisco Systems, Inc.
 * All rights reserved
 *------------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/pam_client_typedef.h
No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
No license file was found, but licenses were detected in source scan.

##
## Sub-Component "c3pl/client/pam":
##
## C3PL Client Policy Abstraction Module
##
## Author: c3pl-dev
## Date: June 2011
##
## Copyright (c) 2011 by cisco Systems, Inc.
## All rights reserved.
##
## syntax: 1.0.0

group: generic
{
  enum:
    internal_inc/enum/pam_class.enum
    internal_inc/enum/pam_client.enum
    internal_inc/enum/pam_obj.enum
    internal_inc/enum/pam_policy.enum
}

group: top
{
  includes: $(COMPONENT_ROOT)/posix/include
  sub: c3pl_pam
  {
    contains:
      pam/src/pam_app_data_db.c
      pam/src/pam_app_db.c
      pam/src/pam_hdl.c
      pam/src/pam_provision.c
  }
}

Found in path(s):
  * /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/content.lst

No license file was found, but licenses were detected in source scan.

/
* $Id$
* $Source$
*------------------------------------------------------------------
* pam_app_data_db.c : pam app data db implementation routines
BEGIN PAM_CLIENT_ENUM

ENUM pam_client_type

    # String to dump for debug commands.
    ATTRIBUTE pam_client_debug
        TYPE char*
    END ATTRIBUTE

    # String to be reserved as name prefix.
    ATTRIBUTE pam_client_prefix
        TYPE char*
    END ATTRIBUTE

ITEM PAM_CLIENT_ONEP
    LONG                         "ONEP"
    SHORT                        "ONEP 
    ATTRIBUTE[pam_client_debug]  "ONEP"
    ATTRIBUTE[pam_client_prefix] "__ONEP_
    END ITEM

END ENUM

END
No license file was found, but licenses were detected in source scan.

/*---------------------------------------------------------------
 * pam_policy_typedef.h
 *
 * Aug 2011, c3pl-dev
 *
 * Copyright (c) 2011 by Cisco Systems, Inc.
 * All rights reserved
 *---------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/pam_policy_typedef.h

No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 *---------------------------------------------------------------
 * pam_ppm_shim.h
 * pam ppm shim specific function definitions
 *
 * January 2011, c3pl-dev
 *
 * Copyright (c) 2011 by cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------------------------
 * $Log$
 * Branch:
 *---------------------------------------------------------------
 * $Endlog$
 */

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/ut/internal_inc/pam_ppm_shim.h

No license file was found, but licenses were detected in source scan.

/* $Id$
 * $Source$
 *---------------------------------------------
 * pam_debug.h : pam debug macros
 *
 * June 2011, c3pl-dev
 *
 * Copyright (c) 2011 by cisco Systems, Inc.
 * All rights reserved.
 *---------------------------------------------
 */
No license file was found, but licenses were detected in source scan.

#----------------------------------------------------------------------
# pam_exception.enum -- PAM Exception type enumerations
#
# July 2011
#
# Copyright (c) 2011 by cisco Systems, Inc.
# All rights reserved.
#----------------------------------------------------------------------

BEGIN PAM_EXCEPTION_ENUM

ENUM pam_exception_type

  # String to dump for debug commands.
  ATTRIBUTE pam_exception_debug
    TYPE char*
  END ATTRIBUTE

ITEM PAM_OK
  LONG     ""
  SHORT    "OK  
  ATTRIBUTE[pam_exception_debug]     "OK"
END ITEM

ITEM PAM_INVLD_HDL
  LONG     ""
  SHORT    "INVLD_HDL  
  ATTRIBUTE[pam_exception_debug]     "INVALID_HANDLE"
END ITEM

ITEM PAM_INVLD_ATTR
  LONG     ""
  SHORT    "INVLD_ATTR  
  ATTRIBUTE[pam_exception_debug]     "INVALID_ATTRIBUTE"
END ITEM

ITEM PAM_APPID_NO_MATCH
  LONG     ""
  SHORT    "APPID_NO_MATCH  
  ATTRIBUTE[pam_exception_debug]     "APPID_NO_MATCH"
END ITEM

ITEM PAM_SYS_NOMEM
  LONG     ""
  SHORT    "SYS_NOMEM  
  ATTRIBUTE[pam_exception_debug]     "SYSTEM_NO_MEMORY"
END ITEM
ITEM PAM_ADD_ACTION_FAIL
  LONG ""
  SHORT "ADD_ACTION_FAIL"
  ATTRIBUTE[pam_exception_debug] "ADD_ACTION_FAILED"
END ITEM

ITEM PAM_RM_ACTION_FAIL
  LONG ""
  SHORT "RM_ACTION_FAIL"
  ATTRIBUTE[pam_exception_debug] "REMOVE_ACTION_FAILED"
END ITEM

ITEM PAM_ATTACH_POL_FAIL
  LONG ""
  SHORT "ATTACH_POL_FAIL"
  ATTRIBUTE[pam_exception_debug] "ATTACH_POLICY_FAILED"
END ITEM

ITEM PAM_DETACH_POL_FAIL
  LONG ""
  SHORT "DETACH_POL_FAIL"
  ATTRIBUTE[pam_exception_debug] "DETACH_POL_FAILED"
END ITEM

ITEM PAM_STORE_POL_FAIL
  LONG ""
  SHORT "STORE_POL_FAIL"
  ATTRIBUTE[pam_exception_debug] "STORE_POLICY_FAILED"
END ITEM

ITEM PAM_DEL_POL_FAIL
  LONG ""
  SHORT "DEL_POL_FAIL"
  ATTRIBUTE[pam_exception_debug] "DELETE_POLICY_FAILED"
END ITEM

ITEM PAM_ADD_CLS_FAIL
  LONG ""
  SHORT "ADD_CLS_FAIL"
  ATTRIBUTE[pam_exception_debug] "ADD_CLASS_FAILED"
END ITEM

ITEM PAM_DEL_CLS_FAIL
  LONG ""
  SHORT "DEL_CLS_FAIL"
  ATTRIBUTE[pam_exception_debug] "DELETE_CLASS_FAILED"
ITEM PAM_ERR_CLASS_IN_USE
  LONG ""
  SHORT "ERR_CLASS_IN_USE"
  ATTRIBUTE[pam_exception_debug] "ERR_CLASS_IN_USE"
END ITEM

ITEM PAM_STORE_CLS_FAIL
  LONG ""
  SHORT "STORE_CLS_FAIL"
  ATTRIBUTE[pam_exception_debug] "STORE_CLASS_FAILED"
END ITEM

ITEM PAM_QUERY_CLS_FAIL
  LONG ""
  SHORT "QUERY_CLS_FAIL"
  ATTRIBUTE[pam_exception_debug] "QUERY_CLASS_FAILED"
END ITEM

ITEM PAM_QUERY_POL_FAIL
  LONG ""
  SHORT "QUERY_POL_FAIL"
  ATTRIBUTE[pam_exception_debug] "QUERY_POLICY_FAILED"
END ITEM

ITEM PAM_POL_NOT_FOUND
  LONG ""
  SHORT "POL_NOT_FOUND"
  ATTRIBUTE[pam_exception_debug] "POLICY_NOT_FOUND"
END ITEM

ITEM PAM_ADD_FILTER_FAIL
  LONG ""
  SHORT "ADD_FILTER_FAIL"
  ATTRIBUTE[pam_exception_debug] "ADD_FILTER_FAIL"
END ITEM

ITEM PAM_RM_FILTER_FAIL
  LONG ""
  SHORT "RM_FILTER_FAIL"
  ATTRIBUTE[pam_exception_debug] "REMOVE_FILTER_FAIL"
END ITEM

ITEM PAM_ADD_CLD_POL_FAIL
  LONG ""
  SHORT "ADD_CHILD_POL_FAIL"
  ATTRIBUTE[pam_exception_debug] "ADD_CHILD_POL_FAIL"
ITEM PAM_DTH_CLD_POL_FAIL
   LONG   ""
   SHORT  "DETACH_CHILD_POL_FAIL"
   ATTRIBUTE[pam_exception_debug] "DETACH_CHILD_POL_FAIL"
END ITEM

ITEM PAM_RETRV_CHLD_POL_FAIL
   LONG   ""
   SHORT  "RETRIEVE_CHILD_POL_FAIL"
   ATTRIBUTE[pam_exception_debug] "RETRIEVE_CHILD_POL_FAIL"
END ITEM

ITEM PAM_DEL_PARTIAL
   LONG   ""
   SHORT  "DELETE_PARTIAL"
   ATTRIBUTE[pam_exception_debug] "DELETE_PARTIAL"
END ITEM

END ENUM

END

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/include/enum/pam_exception.enum

No license file was found, but licenses were detected in source scan.

/------------------------------------------------------------------
* pam_app_data_db_typedef.h
*
* Aug 2011, c3pl-dev
*
* Copyright (c) 2011 by Cisco Systems, Inc.
* All rights reserved
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/pam_app_data_db_typedef.h

No license file was found, but licenses were detected in source scan.

/*
 * $Id$
 * $Source$
 */

* pam_hdl.c: pam hdl api implementation
* routines
* Aug 2011, c3pl-dev
* Copyright (c) 2011-2012 by cisco Systems, Inc.
  * All rights reserved.
  *------------------------------------------------------------------
  */

Found in path(s):
  */opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/src/pam_hdl.c
No license file was found, but licenses were detected in source scan.

/* $Id$
   * $Source$
   *------------------------------------------------------------------
   * pam_target.h : includes for onep pam related
   * routines
   * June 2011, c3pl-dev
   *
   * Copyright (c) 2011 by cisco Systems, Inc.
   * All rights reserved.
   *------------------------------------------------------------------
   */

Found in path(s):
  */opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/include/pam_target.h
No license file was found, but licenses were detected in source scan.

/*-----------------------------------------------
 * pam_class_typedef.h
 * Aug 2011, c3pl-dev
 *
 * Copyright (c) 2011 by Cisco Systems, Inc.
 * All rights reserved
 *-----------------------------------------------
 */

Found in path(s):
  */opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/pam_class_typedef.h
No license file was found, but licenses were detected in source scan.

/* $Id$
   * $Source$
   *------------------------------------------------------------------
   * pam_types.h : includes for onep pam related
   * routines
   * June 2011, c3pl-dev
   */
* Copyright (c) 2011 by cisco Systems, Inc.
* All rights reserved.
*-----------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/include/pam_types.h
No license file was found, but licenses were detected in source scan.

/*
 * $Id$
 * $Source$
 *-----------------------------------------------------------------------
 * pam_app_db.c : pam app db api implementation
 *          routines
 * Aug 2011, c3pl-dev
 *
 * Copyright (c) 2011 by cisco Systems, Inc.
 * All rights reserved.
 *-----------------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/src/pam_app_db.c
No license file was found, but licenses were detected in source scan.

/*
 * $Id$
 * $Source$
 *-----------------------------------------------------------------------
 * pam_provision.c : pam provision api implementation
 *          routines
 * Aug 2011, c3pl-dev
 *
 * Copyright (c) 2011, 2018 by cisco Systems, Inc.
 * All rights reserved.
 *-----------------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/src/pam_provision.c
No license file was found, but licenses were detected in source scan.

#---------------------------------------------------------------
# pam_policy.enum -- PAM policy type enumerations
#
# Aug 2011, c3pl-dev
#

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 292
# Copyright (c) 2011 by Cisco Systems, Inc.
# All rights reserved.
#--------------------------------------------------------

BEGIN PAM_POLICY_ENUM

ENUM pam_policy_type

# String to dump for debug commands.
ATTRIBUTE pam_policy_debug
    TYPE char*
END ATTRIBUTE

ITEM PAM_POLICY_QOS
    LONG "" = "QOS"
    SHORT "QOS"
    ATTRIBUTE[pam_policy_debug] "QOS"
END ITEM

ITEM PAM_POLICY_PSP
    LONG "" = "PSP"
    SHORT "PSP"
    ATTRIBUTE[pam_policy_debug] "PSP"
END ITEM

END ENUM

END

Found in path(s):
  */opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/enum/pam_policy.enum
No license file was found, but licenses were detected in source scan.

/*-------------------------
* pam_app_data_db_types.h: Internally used data structures for PAM APP DATA DB
* Aug 2011, c3pl-dev
* Copyright (c) 2011 by Cisco Systems, Inc.
* All rights reserved
*--------------------------------------------------------
*/

Found in path(s):
  */opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/pam_app_data_db_types.h
No license file was found, but licenses were detected in source scan.
* pam_hdl.h: Function declarations for manipulating handles
* Aug 2011, c3pl-dev
* Copyright (c) 2011 by Cisco Systems, Inc.
* All rights reserved
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/pam_hdl.h
No license file was found, but licenses were detected in source scan.

/*------------------------------------------------------------------
* pam_app_db.h: Function declarations for manipulating the PAM APP DB
* Aug 2011, c3pl-dev
* Copyright (c) 2011 by Cisco Systems, Inc.
* All rights reserved
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/pam_app_db.h
No license file was found, but licenses were detected in source scan.

#-----------------------------
# pam_obj.enum -- PAM obj type enumerations
# Aug 2011, c3pl-dev
# Copyright (c) 2011 by cisco Systems, Inc.
# All rights reserved.
#-----------------------------

BEGIN PAM_OBJ_ENUM

ENUM pam_obj_type

# String to dump for debug commands.
ATTRIBUTE pam_obj_debug
  TYPE char*
END ATTRIBUTE

ITEM PAM_OBJ_TYPE_CLASS
  LONG ""
  SHORT "CLASS "

ATTRIBUTE[pam_obj_debug]     "CLASS"
END ITEM

ITEM PAM_OBJ_TYPE_POLICY
    LONG     ==
    SHORT    "POLICY ">
ATTRIBUTE[pam_obj_debug]     "POLICY"
END ITEM

END ENUM

END

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/enum/pam_obj.enum
No license file was found, but licenses were detected in source scan.

/*------------------------------------------------------------------
* pam_provision.h: Function declarations used during PAM provisioning
*
* Aug 2011, c3pl-dev
*
* Copyright (c) 2011 by Cisco Systems, Inc.
* All rights reserved
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/pam_provision.h
No license file was found, but licenses were detected in source scan.

/*------------------------------------------------------------------
* pam_obj_typedef.h
*
* Aug 2011, c3pl-dev
*
* Copyright (c) 2011 by Cisco Systems, Inc.
* All rights reserved
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/pam_obj_typedef.h
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*------------------------------------------------------------------
* pam_action.c : pam action api implementation
* routines
* June 2011, c3pl-dev
*
* Copyright (c) 2011, 2018 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------
*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/src/pam_action.c
No license file was found, but licenses were detected in source scan.

#-------------------------------------
# pam_class.enum -- PAM class type enumeration
#
# Aug 2011, c3pl-dev
#
# Copyright (c) 2011 by cisco Systems, Inc.
# All rights reserved.
#-------------------------------------

BEGIN PAM_CLASS_ENUM

ENUM pam_class_type

  # String to dump for debug commands.
  ATTRIBUTE pam_class_debug
    TYPE char*
  END ATTRIBUTE

  ITEM PAM_CLASS_QOS
    LONG
      "" 
    SHORT
      "QOS "
    ATTRIBUTE[pam_class_debug] "QOS"
  END ITEM

END ENUM

END

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/internal_inc/enum/pam_class.enum
No license file was found, but licenses were detected in source scan.

/"-------------------------------------

* pam_hdl_types.h: Pertaining to PAM handles
*
/* Aug 2011, c3pl-dev 
*/

/* Copyright (c) 2011-2012 by Cisco Systems, Inc. 
* All rights reserved 
*------------------------------------------------------------------*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/pam/include/pam_hdl_types.h
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*------------------------------------------------------------------*/

*pam_ppm_shim.c : This file has routines which will be called to intercept the ppm invocation. These routines call the PAM apis which in turn call the PPM apis
*
* June 2011, c3pl-dev
*
* Copyright (c) 2011 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/ut/src/pam_ppm_shim.c
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*------------------------------------------------------------------*/

*pam_class.c : pam class api implementation routines
* June 2011, c3pl-dev
*
* Copyright (c) 2011, 2014-2015 by cisco Systems, Inc.
* All rights reserved.
*------------------------------------------------------------------*/

Found in path(s):
* /opt/cola/permits/1130449949_1615189670.63/0/pam-tar/ut/src/pam_class.c
No license file was found, but licenses were detected in source scan.

/* $Id$
* $Source$
*------------------------------------------------------------------*/
1.14 ethtool 5.2
1.14.1 Available under license:

ethtool is available under the terms of the GNU Public License version 2.

See COPYING for details.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION
0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such
parties remain in full compliance.

5. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Program or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the
Program), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the
Program), the recipient automatically receives a license from the
original licensor to copy, distribute or modify the Program subject to
these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties to
this License.

7. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Program at all. For example, if a patent
license would not permit royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of 
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the 
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along 
with this program; if not, write to the Free Software Foundation, Inc., 
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this 
when it starts in an interactive mode:

    Gnomovision version 69, Copyright (C) year name of author 
    Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'. 
    This is free software, and you are welcome to redistribute it 
    under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate 
parts of the General Public License. Of course, the commands you use may 
be called something other than `show w' and `show c'; they could even be 
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your 
school, if any, to sign a "copyright disclaimer" for the program, if 
necessary. Here is a sample; alter the names:

    Yoyodyne, Inc., hereby disclaims all copyright interest in the program 
    `Gnomovision' (which makes passes at compilers) written by James Hacker.

    <signature of Ty Coon>, 1 April 1989
    Ty Coon, President of Vice

This General Public License does not permit incorporating your program into 
proprietary programs. If your program is a subroutine library, you may 
consider it more useful to permit linking proprietary applications with the 
library. If this is what you want to do, use the GNU Lesser General 
Public License instead of this License.

1.15 curl 7.66.0
1.15.1 Available under license :
COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1996 - 2020, Daniel Stenberg, <daniel@haxx.se>, and many 
contributors, see the THANKS file.
All rights reserved.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

1.16 tcp-dump 4.9.3

1.16.1 Available under license:
License: BSD

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The names of the authors may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

1.17 selinux 2.9-5.el8
1.17.1 Available under license:

No license file was found, but licenses were detected in source scan.

```
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris dbgd Policy Rules.</summary>

#### <summary>Write dbgd /var/run socket file</summary>

#### <param name="domain">

Domain allowed access.

#### </summary>

## <param>

# interface(`polaris_dbgd_var_sock_write',`

    gen_require(`
        type polaris_dbgd_t;
        type polaris_dbgd_var_run_t;
        type var_run_t;
    `)

    write_sock_files_pattern($1, var_run_t, polaris_dbgd_var_run_t)

    allow $1 polaris_dbgd_t:unix_stream_socket { connectto };

`)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdbgd.if

No license file was found, but licenses were detected in source scan.

```
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris cpp_stats Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppstats.if
No license file was found, but licenses were detected in source scan.

#  
# November 2020, Christine Hwang  
#  
# Copyright (c) 2017-2021 by Cisco Systems, Inc.  
# All rights reserved  
#  
# Map GNSS TTY to correct device context  
/dev/ttyS1 -c gen_context(system_u:object_r:polaris_cabo_gnss_device_t.s0)

Found in path(s):  
* /opt/cola/permits/1103963160_1615183271.10/selinux-tar/selinux/polariscabognss.fc  
No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky  
#  
# Copyright (c) 2017-2021 by Cisco Systems, Inc.  
# All rights reserved  
#  

policy_module(polarisnginx, 1.0);

gen_require('  
   type polaris_nginx_t;
')

polaris_btrace_data_manage(polaris_nginx_t)  
polaris_chasfs_manage(polaris_nginx_t)  
polaris_tdlresolve_read(polaris_nginx_t)  
polaris_tdlldb_list_dirs(polaris_nginx_t)  
polaris_cpld_read(polaris_nginx_t)  
polaris_lua_read(polaris_nginx_t)  
polaris_flashlib_read(polaris_nginx_t)  
polaris_crft_data_manage(polaris_nginx_t)  
polaris_ripc_sman_ui_serv_connect(polaris_nginx_t)

polaris_lua_read(polaris_nginx_t)  
polaris_disk_harddisk_read_lnk(polaris_nginx_t)

allow polaris_nginx_t self:tcp_socket { bind create listen accept setopt getopt shutdown};  
allow polaris_nginx_t self:capability2 block_suspend;  
allow polaris_nginx_t self:capability { setgid setuid sys_resource };  

polaris_lfts_dev_use(polaris_nginx_t)
logging_send_syslog_msg(polaris_nginx_t)

corenet_tcp_connect_http_port(polaris_nginx_t)
corenet_tcp_bind_generic_node(polaris_nginx_t)
corenet_tcp_bind_http_port(polaris_nginx_t)
corenet_tcp_connect_pkiserver_port(polaris_nginx_t)
# FIXME: add interface to allow bind to port 1025-65535
corenet_tcp_bind_all_ports(polaris_nginx_t)
# Allow the nginx to search/read the web servers config files
apache_read_config(polaris_nginx_t)
apache_search_config(polaris_nginx_t)
# allow read httpd_sys_content_t (/var/www/...)
apache_read_sys_content(polaris_nginx_t)

gen_require(')
  type httpd_var_run_t;
  type syslogd_var_run_t;
')
setattr_dirs_pattern(polaris_nginx_t, httpd_var_run_t, httpd_var_run_t)
manage_dirs_pattern(polaris_nginx_t, httpd_var_run_t, httpd_var_run_t)
manage_files_pattern(polaris_nginx_t, httpd_var_run_t, httpd_var_run_t)
manage_sock_files_pattern(polaris_nginx_t, httpd_var_run_t, httpd_var_run_t)
files_pid_filetrans(polaris_nginx_t, httpd_var_run_t, { file sock_file dir unix_stream_socket })
polaris_socketat_nsfs_read(polaris_nginx_t)
# socketat does setsockopt SO_VRF
allow polaris_nginx_t self:capability net_admin;
auth_use_nsswitch(polaris_nginx_t)

allow polaris_nginx_t tmp_t:dir create_dir_perms;
files_tmp_filetrans(polaris_nginx_t, httpd_log_t, file, "ngx_access.log")
files_tmp_filetrans(polaris_nginx_t, httpd_log_t, file, "ngx_error.log")
files_tmp_filetrans(polaris_nginx_t, httpd_log_t, file, "nginx.pid")
files_tmp_filetrans(polaris_nginx_t, httpd_log_t, file, "nginx.lock.accept")
files_tmp_filetrans(polaris_nginx_t, httpd_log_t, file, "nginx.lock.cookie_tbl")
files_tmp_filetrans(polaris_nginx_t, httpd_log_t, file, "nginx.lock.login_count")
filetrans_pattern(polaris_nginx_t, syslogd_var_run_t, httpd_log_t, file, "openresty.log")
filetrans_pattern(polaris_nginx_t, syslogd_var_run_t, httpd_log_t, file, "ngxcsrf.log")
filetrans_pattern(polaris_nginx_t, syslogd_var_run_t, httpd_log_t, file, "nggtest.log")
create_dirs_pattern(polaris_nginx_t, httpd_log_t, httpd_log_t)
manage_files_pattern(polaris_nginx_t, httpd_log_t, httpd_log_t)
apache_read_log(polaris_nginx_t)
apache_write_log(polaris_nginx_t)
polaris_restconf_tmp_use(polaris_nginx_t)
development_sysfs(polaris_nginx_t)

# dev/zram0 needs fs_t:filesystem getattr
ifdef('quake_platform',
  fs_getattr_xattr_fs(polaris_nginx_t)
)

type polaris_nginx_tmp_t;
files_tmp_file(polaris_nginx_tmp_t)
manage_files_pattern(polaris_nginx_t, polaris_nginx_tmp_t, polaris_nginx_tmp_t)
manage_dirs_pattern(polaris_nginx_t, polaris_nginx_tmp_t, polaris_nginx_tmp_t)
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, file, "nginx_aaa")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, file, "nginx_master")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, file, "nginx_session")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, file, "ciscosdwan.cfg")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, dir, "proxy_temp")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, dir, "client_temp")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, dir, "fastcgi_temp")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, dir, "scgi_temp")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, dir, "uwsgi_temp")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, dir, "pki")
files_tmp_filetrans(polaris_nginx_t, polaris_nginx_tmp_t, dir, "auth")
polaris_restconf_read(polaris_nginx_t)

############################################################################
# webui_helper.sh/webui_helper_upgrade.sh
##########################################################################
polaris_process_domain_template(nginx_webui)
polaris_process_domain_template(nginx_webui_install)
polaris_nginx_exec_domain(polaris_nginx_webui_t, polaris_nginx_webui_exec_t)
polaris_nginx_exec_domain(polaris_nginx_webui_install_t, polaris_nginx_webui_install_exec_t)
corecmd_exec_bin(polaris_nginx_webui_t)
corecmd_exec_bin(polaris_nginx_webui_install_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_nginx_webui_t)
auth_use_nsswitch(polaris_nginx_webui_install_t)

#allow polaris_nginx_webui_t/polaris_nginx_webui_install_t access to nginx webui /tmp base folder
# /tmp/nginx/webui_tmp
manage_files_pattern(polaris_nginx_webui_t, polaris_nginx_tmp_t, polaris_nginx_tmp_t)
manage_files_pattern(polaris_nginx_webui_install_t, polaris_nginx_tmp_t, polaris_nginx_tmp_t)

#allow polaris_file_transfer_client_t to access nginx webui /tmp base folder
# /tmp/nginx/webui_tmp.  We also need to allow chvrf to use the FIFO in cases
# where we use the VRF interface
gen_require('
type polaris_file_transfer_client_t;
type polaris_chvrf_t;

manage_files_pattern(polaris_file_transfer_client_t, polaris_nginx_tmp_t, polaris_nginx_tmp_t)
manage_fifo_files_pattern(polaris_file_transfer_client_t, polaris_nginx_t, polaris_nginx_t)
manage_fifo_files_pattern(polaris_chvrf_t, polaris_nginx_t, polaris_nginx_t)

# fts_client binary requires access to chassis, tdlresolve and cpld
polaris_tdlresolve_read(polaris_file_transfer_client_t)
polaris_chasfs_manage(polaris_file_transfer_client_t)
polaris_cpld_read(polaris_file_transfer_client_t, polaris_sysfs_cpld_t, polaris_sysfs_cpld_t)

gen_require(
    type polaris_file_transfer_client_exec_t;
)
polaris_bexecute_domain(polaris_file_transfer_client_t, polaris_file_transfer_client_exec_t)

type polaris_fts_client_tmp_t;
files_tmp_file(polaris_fts_client_tmp_t)
polaris_fts_client_tmp_manage(polaris_file_transfer_client_t)

# on ultra /var/www directory created by systemd unit that runs /mount_packages.sh
# under unconfined_service_t domain
gen_require(
    type unconfined_service_t;
)
files_var_filetrans(unconfined_service_t, httpd_sys_content_t, dir, "www")

allow polaris_nginx_t self:capability dac_override;

# iox local mgr in webui connects to caf service on port 8098
corenets_tcp_connect_polaris_caf_api_port(polaris_nginx_t)

# IOX downloads the application package using network protocol (e.g http)
gen_require(
    type fifo_var_run_t;
)
allow polaris_file_transfer_client_t fifo_var_run_t:fifo_file read;

# webui connects to dbm backend service on port 9090
corenets_tcp_connect_polaris_wnc_mgrd_port(polaris_nginx_t)

# webui connects to poljvm service on port 9093
corenets_tcp_connect_polaris_poljvm_websocket_port(polaris_nginx_t)

# remote docker workflow
corenets_tcp_connect_us_cli_port(polaris_nginx_t)
# webui sw mgmt app which does install and smu, invokes webui helper shell
# scripts which inturn invoke installer scripts. Hence need to provide transition
# rule to polaris_install_engine_t domain
polaris_install_engine_domtrans(polaris_nginx_webui_install_t)
polaris_install_show_domtrans(polaris_nginx_webui_install_t)

# Allow pipe operations during install command invocation
polaris_nginx_manage_fifo_files(polaris_bexecute_t)
polaris_nginx_manage_fifo_files(polaris_code_verify_t)
polaris_nginx_manage_fifo_files(polaris_install_engine_t)
polaris_nginx_manage_fifo_files(polaris_install_show_t)
polaris_nginx_manage_fifo_files(rsync_t)

# During install-add via WebUI, code_sign_verify generates a file:map denial
# "/usr/bin/code_sign_verify package
# /tmp/patch/smus/10_vwlc_apsp_ap3g3_17.6.bin/mount/C9800-CL-mono-patch.2021-01-11_11.31_radonep"
require {
    type etc_runtime_t;
}
allow polaris_code_verify_t etc_runtime_t:file map;

# Provide sys_resource capability to webui install scripts for sys_pipe calls.
# allow polaris_nginx_webui_install_t self:capability sys_resource;

# nginx/webui File-manager app provides bootflash file-mgmt facility.
# as part of this it needs RW access to bootflash.
# TODO: Bug CSCvp83328 to isolate the access to another utility, which
# can have its own domain and nginx_t can transition to it.
polaris_bootflash_manage(polaris_nginx_t)

# allow nginx to manage core files
polaris_core_file_manage(polaris_nginx_t)

# luajit module for nginx triggers execmem denial due to mprotect call.
# TODO: cdets CSCvp70095 is used to track this vulnerability in
# current nginx component.
allow polaris_nginx_t self:process execmem;

# FIXME : allow shell/binary execution
# Elevated privilege needs to be addressed
# Tracked by Bugid : CSCvp93448
corecmd_exec_bin(polaris_nginx_t)
corecmd_exec_shell(polaris_nginx_t)

#FIXME
# Need to re-evaluate these privileges
#Tracked by Bugid : CSCvp92908, CSCvt81963(fts_client)
polaris_file_transfer_client_domtrans(polaris_nginx_webui_install_t)
# nginx need access btrace fifo file:
polaris_use_btrace_fifo(polaris_nginx_t)
gen_require(
    type proc_t;
)
manage_files_pattern(polaris_nginx_t, polaris_nginx_t, polaris_nginx_t)
allow polaris_nginx_t proc_t:filesystem { associate };
# nginx needs access to /dev/stdout which is owned by pman
allow polaris_nginx_t polaris_pman_t:fifo_file open;

############################################################################
# aireos_translate_helper.sh
# Invokes a python library that converts aireos config to ewlc config.
############################################################################
type polaris_aireos_translator_scripts_t;
files_type(polaris_aireos_translator_scripts_t)
polaris_process_domain_template(nginx_webui_aireos_translator)
polaris_nginx_exec_domain(polaris_nginx_webui_aireos_translator_t,
polaris_nginx_webui_aireos_translator_exec_t)
allow polaris_nginx_t polaris_aireos_translator_scripts_t:dir { getattr open read search };
allow polaris_nginx_t polaris_aireos_translator_scripts_t:file { getattr ioctl open read };
allow polaris_nginx_t polaris_nginx_webui_aireos_translator_exec_t:file ioctl;
allow polaris_nginx_t self:process setfscreate;
files_list_var(polaris_nginx_t)

############################################################################
# ra_trace_webui_helper.sh
# Invokes mcp_trace_filter.sh to perform radio active tracing.
############################################################################
polaris_process_domain_template(nginx_webui_trace_filter)
polaris_nginx_exec_domain(polaris_nginx_webui_trace_filter_t, polaris_nginx_webui_trace_filter_exec_t)
corecmd_exec_bin(polaris_nginx_webui_trace_filter_t)
manage_files_pattern(polaris_nginx_webui_trace_filter_t, polaris_nginx_tmp_t, polaris_nginx_tmp_t)
manage_dirs_pattern(polaris_nginx_webui_trace_filter_t, polaris_nginx_tmp_t, polaris_nginx_tmp_t)
auth_use_nsswitch(polaris_nginx_webui_trace_filter_t)
polaris_trace_filter_domtrans(polaris_nginx_webui_trace_filter_t)
polaris_nginx_manage_fifo_files(polaris_trace_filter_t)

############################################################################
# nginx_helper.sh
# nginx show command helper run by pman invoking curl
############################################################################
polaris_utility_domain_template(nginx_helper)
polaris_pman_entry(polaris_nginx_helper_t, polaris_nginx_helper_exec_t)

#allow execution of nginx_helper.sh
corecmd_exec_bin(polaris_nginx_helper_t)
# allow read of /etc/passwd
auth_use_nsswitch(polaris_nginx_helper_t)

# allow access to the tmp fifo file
polaris_use_btrace_fifo(polaris_nginx_helper_t)

# nginx_helper.sh reads from chasfs
polaris_chasfs_manage(polaris_nginx_helper_t)

gen_require(`
   type polaris_curl_t;
`)

# allow execution of /usr/bin/curl on the pkiserver port
polaris_curl_domtrans(polaris_nginx_helper_t)
corenet_tcp_connect_pkiserver_port(polaris_curl_t)

# allow curl to write into chasfs
polaris_chasfs_manage(polaris_curl_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisnginx.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris cpp_cdm Policy Rules.</summary>

#<summary>
Allow access to semaphore with type polaris_cpp_cdm_t
</summary>

## <param name="domain">
Domain allowed access.
</param>

iface(`polaris_cpp_cdm_sem_use`,
   gen_require(`
      type polaris_cpp_cdm_t;
`)
)
allow $1 polaris_cdm_t:sem rw_sem_perms;
')

########################################################################
## <summary>
## Allow access to shared memory with type polaris_cdm_t
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_cdm_shm_use',`
gen_require(`
type polaris_cdm_t;
')
allow $1 polaris_cdm_t:shm rw_shm_perms;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppcdm.if
No license file was found, but licenses were detected in source scan.

#
# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris dmi_ndbmand Policy Rules.</summary>

########################################################################
## <summary>
## Work with NDBLOAD_LOCK_PATH.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_ndbload_lock_use',`
gen_require(`
type polaris_dmi_ndbutil_lock_t;
type tmp_t;
')
manage_files_pattern($1, tmp_t, polaris_dmi_ndbutil_lock_t)
files_tmp_filetrans($1, polaris_dmi_ndbutil_lock_t, file, ".l.ndbutil-load")
files_tmp_filetrans($1, polaris_dmi_ndbutil_lock_t, file, ".l.ndbutil-use")

'）

########################################################################
## <summary>
## Manage polaris_ndbmand_ndbutil_t files
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>

interface('polaris_ndbmand_ndbutil_manage',
  gen_require(
    type polaris_ndbmand_ndbutil_t;
    type polaris_confd_ndbutil_lock_t;
  )
  manage_files_pattern($1, polaris_confd_ndbutil_lock_t, polaris_ndbmand_ndbutil_t)
'）

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmindbmand.if
No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris sif_mgr Policy Rules.</summary>

########################################################################
## <summary>
## Allow the specified domain able to read sif_mgr /tmp files.
## </summary>
## <param name="type">
## Domain allowed access.
## </param>
## <param name="object">
## File name in /tmp that the sif_mgr domain creates and other domains
## <summary>
##      Domain allowed access.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>

interface(`polaris_chasfs_manage',`
    gen_require(`
        type polaris_chasfs_t;
    `)
    manage_dirs_pattern($1, polaris_chasfs_t, polaris_chasfs_t)
    manage_files_pattern($1, polaris_chasfs_t, polaris_chasfs_t)
    manage_lnk_files_pattern($1, polaris_chasfs_t, polaris_chasfs_t)
    manage_fifo_files_pattern($1, polaris_chasfs_t, polaris_chasfs_t)
`)
manage_sock_files_pattern($1, polaris_chasfs_t, polaris_chasfs_t)

allow $1 polaris_chasfs_t:{file dir} watch;

# chasfs contains a lot of weird permission files
allow $1 self:capability dac_read_search;
'

####################################
## <summary>
##      Read chasfs files
## </summary>
## <param name="domain">
##      Domain allowed access.
## </param>
## <rolebase/>
#
interface('polaris_chasfs_read',
  gen_require(' type polaris_chasfs_t;
')
  list_dirs_pattern($1, polaris_chasfs_t, polaris_chasfs_t)
  read_files_pattern($1, polaris_chasfs_t, polaris_chasfs_t)
  read_lnk_files_pattern($1, polaris_chasfs_t, polaris_chasfs_t)
  read_fifo_files_pattern($1, polaris_chasfs_t, polaris_chasfs_t)
  read_sock_files_pattern($1, polaris_chasfs_t, polaris_chasfs_t)

allow $1 polaris_chasfs_t:{file dir} watch;

# chasfs contains a lot of weird permission files
allow $1 self:capability dac_read_search;
'

####################################
## <summary>
##     Manage chasync file(user_input_custom.xml)
## </summary>
## <param name="domain">
##      getattr allowed access.
## </param>
## <rolebase/>
#
interface('polaris_chasync_files_manage',
  gen_require('
```c

#include "polaris_chasync_files_t.h"

manage_files_pattern($1, polaris_chasync_files_t, polaris_chasync_files_t)

#endif

/* #/opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarischasfs.if */

No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky
large empty line left out

# # Copyright (c) 2016-2019 by Cisco Systems, Inc.
# # All rights reserved
large empty line left out

/dev/dev_lfts -c gen_context(system_u:object_r:polaris_lfts_device_t,s0)

No license file was found, but licenses were detected in source scan.

# # July 2019, Victor Kamensky
large empty line left out

# # Copyright (c) 2019 by Cisco Systems, Inc.
# # All rights reserved
large empty line left out

#endif

```

---

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 319
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisgrmgr.if
No license file was found, but licenses were detected in source scan.

#  # March 2017, Victor Kamensky
#  # Copyright (c) 2017-2021 by Cisco Systems, Inc.
#  # All rights reserved
#
policy_module(polarisngwc, 1.0);

# chdrvmmmap device (MMAP Driver for ASIC Memory mapping)
type polaris_chdrvmmmap_device_t;
dev_node(polaris_chdrvmmmap_device_t)

# gettysburg_fpga device (/dev/gettysburg_dev1)
type polaris_gettysburg_fpga_device_t;
dev_node(polaris_gettysburg_fpga_device_t)

# dplr io memory mapping driver /dev/cisco/dplriomem
type polaris_dplr_iomem_mmapdrv_device_t;
dev_node(polaris_dplr_iomem_mmapdrv_device_t)

# /dev/shm/ngwc_shm shared memory
type polaris_ngwc_shm_t;
files_type(polaris_ngwc_shm_t)

# /dev/shm/ngwc_scc_shm shared memory
type polaris_ngwc_scc_shm_t;
files_type(polaris_ngwc_scc_shm_t)

# /dev/shm/iomd_to_fed_ptp_offload shared memory
type polaris_ngwc_itfpo_t;
files_type(polaris_ngwc_itfpo_t)

# /dev/shm/sdm shared memory
type polaris_sdm_shm_t;
files_type(polaris_sdm_shm_t)

# /dev/shm/sem.i2c_sem00N quake sempaphor
type polaris_quake_i2c_t;
files_type(polaris_quake_i2c_t)

#FPGA io memory mapping driver /dev/cisco/fpgaiomem
type polaris_fpga_iomem_mmapfpga_device_t;


dev_node(polaris_fpga_iomem_mmapfpga_device_t)

# Mapping permission for /dev/shm/<name>
ifdef(`quake_platform',`
    gen_require(`
        type systemd_tmpfiles_t;
    `)
    mmap_files_pattern(systemd_tmpfiles_t, polaris_quake_i2c_t, polaris_quake_i2c_t)
`)

# In combined image we have several policies and we choose
# one to use in run-time, but file system is shared and
# labeled with different file_context files, so it is
# possible that we may have some labels that other policy
# does not understand for now just hard missing entries
ifdef(`nyquist_platform',`
    type polaris_cm_cc_exec_t;
    files_type(polaris_cm_cc_exec_t)
    type polaris_cm_fp_exec_t;
    files_type(polaris_cm_fp_exec_t)
    type polaris_flashcheck_exec_t;
    files_type(polaris_flashcheck_exec_t)
    type polaris_emd_exec_t;
    files_type(polaris_emd_exec_t)
    type polaris_ngwc_ishow_exec_t;
    files_type(polaris_ngwc_ishow_exec_t)
`)

# Adding here as this unmount command is specific to Nyquist platform.
# /bin/cat9k_ssd_auth_cmds.sh
polaris_utility_domain_template(ssdUnmount)
corecmd_exec_bin(polaris_ssdUnmount_t)
storage_getattr_fixed_disk_dev(polaris_ssdUnmount_t)
fstools_domtrans(polaris_ssdUnmount_t)
mount_domtrans(polaris_ssdUnmount_t)
polaris_use_btrace_fifo(polaris_ssdUnmount_t)

#allow to read /etc/passwd
auth_use_nsswitch(polaris_ssdUnmount_t)
polaris_chasfs_read(polaris_ssdUnmount_t)
polaris_cpld_read(polaris_ssdUnmount_t)

#Read /tmp/sw/boot files
polaris_boot_tmp_read(polaris_ssdUnmount_t)
# Allow read to btrace tmp files
polaris_btrace_tmpmppub_read(polaris_ssdUnmount_t)
# Allow getattr to tmpfs
fs_getattr_tmpfs(polaris_ssdUnmount_t)
# Allow read to ssd auth tmp files /tmp/ssd_blk_device created by udev
polaris_read_ssd_tmp_files(polaris_ssd_unmount_t)

# allow creation/access of temporary files created by bash such as
# /tmp/sh-thd-1499428203 etc

type polaris_ssd_unmount_tmp_t;
files_tmp_file(polaris_ssd_unmount_tmp_t)
files_tmp_filetrans(polaris_ssd_unmount_t, polaris_ssd_unmount_tmp_t, file)
manage_files_pattern(polaris_ssd_unmount_t, polaris_ssd_unmount_tmp_t, polaris_ssd_unmount_tmp_t)
allow polaris_ssd_unmount_t polaris_ssd_unmount_tmp_t:file { unlink }; 

#Allow nfs dir/file read
rpc_manage_nfs_state_data_dir(polaris_ssd_unmount_t)
rpc_manage_nfs_state_data(polaris_ssd_unmount_t)
# Allow read access to files on nfsd file system
fs_read_nfsd_files(polaris_ssd_unmount_t)
kernl rw rpc sysctls(polaris_ssd_unmount_t)
fs_getattr xattr fs(polaris_ssd_unmount_t)

# allow create/sendto/connect operations for logger
allow polaris_ssd_unmount_t self:unix_dgram_socket sendto;
allow polaris_ssd_unmount_t self:unix_dgram_socket create_socket_perms;
logging_create_develog_dev(polaris_ssd_unmount_t)
logging_send_syslog_msg(polaris_ssd_unmount_t)
polaris_persistent_getattr(polaris_ssd_unmount_t)
#allow dir:search getattr read for udev tmp files
#allow file:write open for udev tmp files
polaris_udev_tmp_manage(polaris_ssd_unmount_t)
gen_require(
    type rsync_exec_t;
    type rsync_port_t;
')

#allow tcp_socket:name_connect for rsync_port_t
#polaris_ssd_unmount_t has superset privileges of rsync, so its good
#to run rsync in unmount domain. This is not the case everywhere. Please use
#corenet_tcp_connect_rsync_port if rsync needs to be run in its own domain
allow polaris_ssd_unmount_t rsync_port_t:tcp_socket name_connect;
#allow file:getattr exec read open map execute_no_trans for rsync_exec_t
allow polaris_ssd_unmount_t rsync_exec_t:file { execute execute_no_trans getattr map open read };
#allow dir:getattr for removable_t
polaris_getattr removable(polaris_ssd_unmount_t)
')
ifdef('passport_platform',
    type polaris_auto_upgrade_server_rp_exec_t;
    files_type(polaris_auto_upgrade_server_rp_exec_t)
    type polaris_bt_logger_exec_t;
    files_type(polaris_bt_logger_exec_t)
    type polaris_cmm_exec_t;
    files_type(polaris_cmm_exec_t)
type polaris_ngwc_plfm_mgr_exec_t;
files_type(polaris_ngwc_plfm_mgr_exec_t)
type polaris_sif_mgr_exec_t;
files_type(polaris_sif_mgr_exec_t)
type polaris_torch_exec_t;
files_type(polaris_torch_exec_t)
type polaris_xcvr_test_exec_t;
files_type(polaris_xcvr_test_exec_t)
type polaris_faked_exec_t;
files_type(polaris_faked_exec_t)
type polaris_emd_exec_t;
files_type(polaris_emd_exec_t)
type polaris_ngwc_ishow_exec_t;
files_type(polaris_ngwc_ishow_exec_t)
type polaris_gr_mgr_exec_t;
files_type(polaris_gr_mgr_exec_t)
type polaris_ioxss_rp_exec_t;
files_type(polaris_ioxss_rp_exec_t)
')
ifdef(’starfleet_platform’,

    type polaris_xcvr_test_exec_t;
    files_type(polaris_xcvr_test_exec_t)
    type polaris_auto_upgrade_server_rp_exec_t;
    files_type(polaris_auto_upgrade_server_rp_exec_t)
    type polaris_bt_logger_exec_t;
    files_type(polaris_bt_logger_exec_t)
    type polaris_cmm_exec_t;
    files_type(polaris_cmm_exec_t)
    type polaris_ngwc_plfm_mgr_exec_t;
    files_type(polaris_ngwc_plfm_mgr_exec_t)
    type polaris_sif_mgr_exec_t;
    files_type(polaris_sif_mgr_exec_t);
    type polaris_torch_exec_t;
    files_type(polaris_torch_exec_t);
')

    type polaris_disk_ucode0_t;
    files_type(polaris_disk_ucode0_t);

    type polaris_nplusm_power_file_t;
polaris_pfile_type(polaris_nplusm_power_file_t)

    #permission for /ucode0
    optional_policy(’
        gen_require(’
            type polaris_periodic_t;
        )
        polaris_disk_ucode0_read_lnk(polaris_periodic_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwc.te
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris cfgmgr Policy Rules.</summary>

#######################################
## <summary>
##      Write cfmgr /var/run socket file
## </summary>
## <param name="domain">
##      Domain allowed access.
## </param>
#
interface(`polaris_cfgmgr_var_sock_write',
     gen_require(`
       type polaris_cfgmgr_t;
       type polaris_cfgmgr_var_run_t;
       type var_run_t;
     `)
     write_sock_files_pattern($1, var_run_t, polaris_cfgmgr_var_run_t)
     allow $1 polaris_cfgmgr_t:unix_stream_socket { connectto };
   `)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscfgmgr.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisstackmgr, 1.0);
gen_require("
    type polaris_stack_mgr_t;
"
)
polaris_btrace_data_manage(polaris_stack_mgr_t)
polaris_crft_data_manager(polaris_stack_mgr_t)
polaris_chasfs_manager(polaris_stack_mgr_t)
polaris_tdlresolve_read(polaris_stack_mgr_t)
polaris_tdlldb_list_drs(polaris_stack_mgr_t)
polaris_cpld_read(polaris_stack_mgr_t)
polaris_lua_read(polaris_stack_mgr_t)
polaris_flashlib_read(polaris_stack_mgr_t)
polaris_ripc_sman_ui_serv_connect(polaris_stack_mgr_t)
polaris_db_tdlldb_dir_use(polaris_stack_mgr_t)

# allow to send message to /dev/log
logging_send_syslog_msg(polaris_stack_mgr_t)

allow polaris_stack_mgr_t self:capability { dac_override };
polaris_dynconfig_tmp_read(polaris_stack_mgr_t)
corecmd_exec_bin(polaris_stack_mgr_t)
corecmd_exec_shell(polaris_stack_mgr_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_stack_mgr_t)

# read /proc/cmdline
kernel_read_system_state(polaris_stack_mgr_t)

# open /dev/ttyS0 console in stack_console_write_init
term_use_unallocated_ttys(polaris_stack_mgr_t)

# on ngwc/vwlc FIPS code reads /tmp/hw_entropy
polaris_hw_entropy_use(polaris_stack_mgr_t)

#stackmgr runs mcp_trace_request.sh
polaris_trace_request_domtrans(polaris_stack_mgr_t)

#stack_mgr needs to be able to access /tmp/issu_stk/prst_sync_rld_info_prvcsd
polaris_issu_stack_tmp_manage(polaris_stack_mgr_t)

# may use mcp_chvrf.sh to access other nodes in system.
# Note that we do not actually need to transition to the chvrf domain, however
# a file descriptor leak can occur and the domain transition permission macro
# expands to allow polaris_chvrf_t to access the fifo
polaris_chvrf_domtrans(polaris_stack_mgr_t)

# Allow read on bootflash to be able to read reload_history
polaris_bootflash_read(polaris_stack_mgr_t)

# stackmgr tmp files

type polaris_stack_mgr_tmp_t;
files_tmp_file(polaris_stack_mgr_tmp_t)
files_tmp_filetrans(polaris_stack_mgr_t, polaris_stack_mgr_tmp_t, file, "ngwc_reload_reason")
manage_files_pattern(polaris_stack_mgr_t, polaris_stack_mgr_tmp_t, polaris_stack_mgr_tmp_t)

allow polaris_stack_mgr_t self:capability sys_nice;
allow polaris_stack_mgr_t self:process setsched;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisstackmgr.te
No license file was found, but licenses were detected in source scan.

#
# January 2018, Manohar Hungund
#
# Copyright (c) 2018-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisoctdplogrp file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisoctdplogrp.fc
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris edge_start Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscedgestart.if
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
define(`polaris_mqipc_service_server_aux',`dnl
type $1;
polaris_mqipc_type($1)
polaris_mqipc_$2_create_name($3'))

define(`polaris_mqipc_service_server',`dnl
polaris_mqipc_service_server_aux(mqipc_label($1), mqipc_stem($1), process_label($2))dnl ')

define(`polaris_mqipc_service_client_aux',`dnl
polaris_mqipc_$2_use($3'))

define(`polaris_mqipc_service_client',`dnl
polaris_mqipc_service_client_aux(mqipc_label($1), mqipc_stem($1), process_label($2))dnl ')

define(`polaris_mqipc_service_server_elastic_client',`')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_mqipc_te.m4

No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky # # Copyright (c) 2016-2020 by Cisco Systems, Inc. # All rights reserved #

## <summary>Polaris polarisqfp Policy Rules.</summary>

### <summary>Work (read, write, ioctl) with /dev/netmap device</summary>

```c
interface(`polaris_netmap_dev_use',`
gen_require(`
    type device_t;
type polaris_netmap_device_t;
')
```
write_chr_files_pattern($1, device_t, polaris_netmap_device_t)
read_chr_files_pattern($1, device_t, polaris_netmap_device_t)
allow $1 polaris_netmap_device_t:chr_file map;

### <summary>
## Work (read, write, ioctl) with /dev/svc_eng_puntNN devices
##
### <param name="domain">
## Domain allowed access.
### </summary>
##
### <param>
##
interface(`polaris_svc_eng_punt_dev_use',
  gen_require(`
    type device_t;
type polaris_sep_device_t;
  `)
  write_chr_files_pattern($1, device_t, polaris_sep_device_t)
  read_chr_files_pattern($1, device_t, polaris_sep_device_t)
)

### <summary>
## Allow access to semaphore with type polaris_qfp_t
### <param name="domain">
## Domain allowed access.
### </summary>
##
### <param>
##
interface(`polaris_qfp_sem_use',
  gen_require(`
    type polaris_qfp_t;
  `)
  allow $1 polaris_qfp_t:sem rw_sem_perms;
)

### <summary>
## Send messages to qfp unix datagram sockets.
##
### <param name="domain">
## Domain allowed access.
##<summary>
## Execute iodbd.sh script in the polaris_iodbd_t domain.
##</summary>
##<param name="domain">
## Domain allowed to transition.
##</param>
# interface('polaris_iodbd_domtrans',
  gen_require(
    type polaris_iodbd_t, polaris_iodbd_exec_t;
  )
  corecmd_search_bin($1)
  domtrans_pattern($1, polaris_iodbd_exec_t, polaris_iodbd_t)
')

# CSR & C8KV infiniband devices in Azure
interface('polaris_infiniband_dev_use',
  gen_require(
    type device_t;
    type polaris_infiniband_device_t;
  )
  write_chr_files_pattern($1, device_t, polaris_infiniband_device_t)
  read_chr_files_pattern($1, device_t, polaris_infiniband_device_t)
  allow $1 polaris_infiniband_device_t:chr_file map;
')
interface('polaris_iodb_tmp_manage',
    gen_require('  
        type polaris_iodb_tmp_t;
    ')

manage_files_pattern($1, polaris_iodb_tmp_t, polaris_iodb_tmp_t)
manage_dirs_pattern($1, polaris_iodb_tmp_t, polaris_iodb_tmp_t)

fs_getattr_tmpfs($1)
')

interface('polaris_qfp_memif_manage',
    gen_require('  
        type polaris_qfp_memif_t;
    ')

manage_files_pattern($1, polaris_qfp_memif_t, polaris_qfp_memif_t)
manage_sock_files_pattern($1, polaris_qfp_memif_t, polaris_qfp_memif_t)

manage_dirs_pattern($1, { tmp_t polaris_qfp_memif_t }, polaris_qfp_memif_t)
allow $1 polaris_qfp_memif_t:file map;
')

interface('polaris_qfp_log_manage',
    gen_require('  
        type tmp_t;
    ')

manage_dirs_pattern($1, { tmp_t polaris_qfp_memif_t }, polaris_qfp_memif_t)
allow $1 polaris_qfp_memif_t:file map;
')
## <rolebase/>
#
interface('polaris_qfp_log_manage',
    type polaris_qfp_var_log_t;
    logging_log_file(polaris_qfp_var_log_t)
    logging_log_filetrans(polaris_qfp_t, polaris_qfp_var_log_t, file, $1)
    manage_files_pattern(polaris_qfp_t, var_log_t, polaris_qfp_var_log_t)
')

#################################################
## <summary>
## Work (read, write, ioctl) with /dev/icp_adf_ctl and
## /dev/icp_dev_mem devices
## <param name="domain">
## Domain allowed access.
## </param>
## </summary>
#
interface('polaris_icp_dev_use',
    gen_require(
        type device_t;
        type polaris_icp_device_t;
    )
    write_chr_files_pattern($1, device_t, polaris_icp_device_t)
    read_chr_files_pattern($1, device_t, polaris_icp_device_t)
    allow $1 polaris_icp_device_t:chr_file map;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisqfp.if
No license file was found, but licenses were detected in source scan.

#  # March 2017, Victor Kamensky
#  # Copyright (c) 2016-2019 by Cisco Systems, Inc.
#  # All rights reserved
#
/usr/binos/bin/*.linux_iosd.*ms -- gen_context(system_u:object_r:polaris_iosd_exec_t,s0)
/usr/binos/bin/mcpcc-ic-ms -- gen_context(system_u:object_r:polaris_iosd_exec_t,s0)
/tmp/boottime gen_context(system_u:object_r:polaris_iosd_tmp_files_t,s0)
/tmp/booted gen_context(system_u:object_r:polaris_iosd_tmp_files_t,s0)
/tmp/restconf(/.*)? gen_context(system_u:object_r:polaris_restconf_tmp_t,s0)
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisiosd.fc
No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky
#  
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#  
### <summary>Polaris cli_agent Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscliagent.if
No license file was found, but licenses were detected in source scan.

#  
# August 2017, Shawn Lu
#  
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#  
# polarisrogued file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrogued.fc
No license file was found, but licenses were detected in source scan.

#  
# July 2017, Victor Kamensky
#  
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#  
### <summary>Polaris MCP Platform Policy Rules.</summary>

**************************************************
### <summary>
### Work (read, write, ioctl) with /dev/scooby

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 332
interface('polaris_scooby_dev_use',
    gen_require(
        type device_t;
        type polaris_scooby_device_t;
        ')
        write_chr_files_pattern($1, device_t, polaris_scooby_device_t)
        read_chr_files_pattern($1, device_t, polaris_scooby_device_t)
    ')

####################################################################
## <summary>
## Work (read, write, ioctl) with /dev/spa[0123]
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_spa_dev_use',
    gen_require(
        type device_t;
        type polaris_spa_device_t;
        ')
        write_chr_files_pattern($1, device_t, polaris_spa_device_t)
        read_chr_files_pattern($1, device_t, polaris_spa_device_t)
        allow $1 polaris_spa_device_t:chr_file map;
    ')

####################################################################
## <summary>
## Work (read, write, ioctl) with /dev/htdp[0-9]*
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_htdp_dev_use',
    gen_require('
type device_t;
type polaris_htdp_device_t;
)
write_chr_files_pattern($1, device_t, polaris_htdp_device_t)
read_chr_files_pattern($1, device_t, polaris_htdp_device_t)
)

******************************************************************************
## <summary>
## Work (read, write, ioctl) with /sys/devices/virtual/sys_platform
## </summary>
## <param name="domain">
##<summary>
## Domain allowed access.
## </summary>
## </param>
#
#interface('polaris_sysfs_platform_dev_use',`
gen_require(`
type polaris_sysfs_platform_t;
)
manage_files_pattern($1, polaris_sysfs_platform_t, polaris_sysfs_platform_t)
)

******************************************************************************
## <summary>
## Work (read, write, ioctl) with /dev/ds31408
## </summary>
## <param name="domain">
##<summary>
## Domain allowed access.
## </summary>
## </param>
#
#interface('polaris_ds31408_dev_use',`
gen_require(`
type device_t;
type polaris_ds31408_device_t;
)
rw_chr_files_pattern($1, device_t, polaris_ds31408_device_t)
)

******************************************************************************
## <summary>
## Allow access to /dev/cbdma
## </summary>
## <param name="domain">
##<summary>
## Domain allowed access.
</param>
#
interface(`polaris_cbdma_dev_use',`
    gen_require(`
        type device_t;
        type polaris_cbdma_device_t;
    `)
    write_chr_files_pattern($1, device_t, polaris_cbdma_device_t)
    read_chr_files_pattern($1, device_t, polaris_cbdma_device_t)
    allow $1 polaris_cbdma_device_t:chr_file map;
`)

########################################
## Allow access to /dev/cpp_htdp
## </summary>
## <param name="domain">
##   Domain allowed access.
## </summary>
## </param>
#
interface(`polaris_cpp_htdp_dev_use',`
    gen_require(`
        type polaris_cpp_htdp_device_t;
    `)
    write_chr_files_pattern($1, device_t, polaris_cpp_htdp_device_t)
    read_chr_files_pattern($1, device_t, polaris_cpp_htdp_device_t)
    allow $1 polaris_cpp_htdp_device_t:chr_file map;
`)

########################################
## Allow access to /dev/n2_device
## </summary>
## <param name="domain">
##   Domain allowed access.
## </summary>
## </param>
#
interface(`polaris_n2_dev_use',`
    gen_require(`
        type device_t;
        type polaris_n2_device_t;
    `)
    write_chr_files_pattern($1, device_t, polaris_n2_device_t)
interface('polaris_cy2213_dev_use',
    gen_require(' type device_t; type polaris_cy2213_device_t;
    )
    write_chr_files_pattern($1, device_t, polaris_cy2213_device_t)
    read_chr_files_pattern($1, device_t, polaris_cy2213_device_t)
)

interface('polaris_vega_dev_use',
    gen_require(' type device_t; type polaris_vega_device_t;
    )
    write_chr_files_pattern($1, device_t, polaris_vega_device_t)
    read_chr_files_pattern($1, device_t, polaris_vega_device_t)
)

# Work (read, write, ioctl) with /dev/dash_fpga device
read_chr_files_pattern($1, device_t, polaris_n2_device_t)
## </summary>
## </param>
#
interface('polaris_dash_dev_mcp_use',
  gen_require(''
      type device_t;
      type polaris_dash_device_t;
  ')
  write_chr_files_pattern($1, device_t, polaris_dash_device_t)
  read_chr_files_pattern($1, device_t, polaris_dash_device_t)
  allow $1 polaris_dash_device_t:chr_file map;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismcp.if
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl Crankshaft (Overlord, Utah and Fugazi) Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 3)
max_bay_map_set(`cc', `per_bay', 3)
max_bay_map_set(`fp', `per_bay', 3)

max_bay_ripc_map_set(`rp', `per_bay', 3)
max_bay_ripc_map_set(`cc', `per_bay', 3)
max_bay_ripc_map_set(`fp', `per_bay', 3)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/mcpmaps.m4
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisiosd, 1.0);

  gen_require(''
    type polaris_iosd_t;
  ')
ifdef(`nyquist_platform',`

gen_require(`

    type polaris_bt_logger_iosd_mqipc_t;
`
')

# iosd may start first and create this mqipc channel
polaris_mqipc_create_name(polaris_iosd_t, polaris_bt_logger_iosd_mqipc_t, bt_logger_iosd)
`

polaris_btrace_data_manage_all(polaris_iosd_t)
polaris_chasfs_manage(polaris_iosd_t)
polaris_tdlresolve_read(polaris_iosd_t)
polaris_tdlldb_list_dirs(polaris_iosd_t)
polaris_cpld_read(polaris_iosd_t)
polaris_lua_read(polaris_iosd_t)
polaris_flashlib_read(polaris_iosd_t)
polaris_crft_data_manage_all(polaris_iosd_t)
optional_policy(`
    polaris_gnmib_gnoi_images_manage(polaris_iosd_t)
')

polaris_ripc_sman_ui_serv_connect(polaris_iosd_t)
polaris_db_tdlldb_dir_use(polaris_iosd_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_iosd_t)

# allow iosd read/write via hostname <>
systemd_hostnamed_manage_config(polaris_iosd_t)

# creates /etc/netns/1/resolv.conf via ip domain-name <> command
# creates /etc/netns/vrf.VRFNAME via ip vfr VRFNAME command
# creates /etc/netns/vrf.VRFNAME/resolv.conf via ip
# domain-name vrf VRFNAME <> command

gen_require(`

    type net_conf_t;
`
')
files/etc/filetrans(polaris_iosd_t, net_conf_t, file, "resolv.conf")
files/etc/filetrans(polaris_iosd_t, net_conf_t, file, "hosts")
files/etc/filetrans(polaris_iosd_t, net_conf_t, dir, "netns")
sysnet_manage_config(polaris_iosd_t)
sysnet_manage_config_dirs(polaris_iosd_t)
# for pluggable FS, allow iosd to access files on them.
polaris_getattr_removable(polaris_iosd_t)
polaris_removable_manage(polaris_iosd_t)
fs_read_removable_symlinks(polaris_iosd_t)

polaris_lsmpi_dev_use(polaris_iosd_t)
polaris_lsmpi_sysctl_read(polaris_iosd_t)
polaris_cfg_data_manage(polaris_iosd_t)
polaris_proc_monbifo_read(polaris_iosd_t)

polaris_icc_broken_relocations(polaris_iosd_t)

allow polaris_iosd_t self:capability { sys_nice chown fsetid sys_rawio dac_override dac_read_search ipc_lock }

gen_require(
    type httpd_config_t;
    type tmp_t;
)

# iosd creates /tmp/nginx.conf file
manage_files_pattern(polaris_iosd_t, tmp_t, httpd_config_t)
# transition nginx.conf into httpd_config_t
files_tmp_filetrans(polaris_iosd_t, httpd_config_t, file, "nginx.conf")
# RW access to /usr/binos/conf/nginx-conf/servers (utd feature)
manage_dirs_pattern(polaris_iosd_t, httpd_config_t, httpd_config_t)

#iosd create /tmp/nginx/cert/ca.cert
polarisnginx_tmp_manage(polaris_iosd_t)

# !!!LOOK AT ME!!! - we allow iosd to read raw memory
# dev_read_raw_memory(polaris_iosd_t)

polaris_flashlib_write(polaris_iosd_t)
polaris_nvram_manage(polaris_iosd_t)
polaris_persistent_manage(polaris_iosd_t)

# smu management in iosd (linked in via libbcrdu.so) accesses
# files created by the installer under /tmp/patch
polaris_install_tmp_read(polaris_iosd_t)

optional_policy(
    polaris_cpp_tmp_ifdev_use(polaris_iosd_t)
)

polaris_dyncfg_tmp_read(polaris_iosd_t)

# lsmpi_fetch_linux_ifindex tries to ioctl(skfd, SIOCGIFINDEX, &ifr) on
# non existent ethN interface, as result kernel triggers attempt to
# load kernel module that would correspond to such interface. Deny
# and don't audit iosd_t attempt to load kernel modules.
# LOOK AT ME: in long term we don't want iosd even try to load modules
# and we would actually would want to report and fail such
kernel_dontaudit_request_load_module(polaris_iosd_t)

# iosd calls nice function to change fast path priority (mcp_fastpath_thread_func)
allow polaris_iosd_t self:process setsched;

ifdef(`crankshaft_family',`
ifconfig_attach_tun_iface(polaris_iosd_t)
corenet_rw_tun_tap_dev(polaris_iosd_t)
')

ifdef(`mcp_family',`
ifconfig_attach_tun_iface(polaris_iosd_t)
corenet_rw_tun_tap_dev(polaris_iosd_t)
allow polaris_iosd_t polaris_iosd_t:tun_socket relabelfrom;
')

# on ultra iosd is figuring out parameters of interfaces of underlying
# hypervisors kvm, vmware, etc. See vxe_gethd_ifdb_scan
ifdef(`crankshaft_family',`
dev_rw_sysfs(polaris_iosd_t)
polaris_disk_objstore_manage(polaris_iosd_t)
')
ifdef(`vxe_family',`
dev_read_sysfs(polaris_iosd_t)
polaris_disk_objstore_manage(polaris_iosd_t)
polaris_objstore_sem_use(polaris_iosd_t)
')
ifdef(`vwlc_platform',`
polaris_disk_objstore_manage(polaris_iosd_t)
optional_policy(`
    polaris_vwlc_grub_efi_use(polaris_iosd_t)
')
')
ifdef(`wlc_family',`
dev_read_sysfs(polaris_iosd_t)
polaris_tlscd_uds_manage(polaris_iosd_t)
gen_require(`
    type polaris_tlscd_t;
')
allow polaris_iosd_t polaris_tlscd_t:unix_dgram_socket sendto;
')
#ifdef(`mcp_family',`
dev_read_sysfs(polaris_iosd_t)
')
# neptune need to figure fan type by reading
# /sys/bus/platform/devices/nios/n2h_fan_ctrl_fan_tray_status
ifdef('neptune_platform',`
    dev_read_sysfs(polaris_iosd_t)
')

# radium need to figure fan type by reading
# /sys/bus/platform/devices/nios/n2h_fan_ctrl_fan_tray_status
ifdef('radium_platform',`
    dev_read_sysfs(polaris_iosd_t)
')

# __get_nprocs opens /sys/devices/system/cpu/online
ifdef('quake_platform',`
    dev_read_sysfs(polaris_iosd_t)
')

# __get_nprocs opens /sys/devices/system/cpu/online
ifdef('supernova_platform',`
    dev_read_sysfs(polaris_iosd_t)
')

# work with /tmp/boottime, /tmp/booted files: create/write
type polaris_iosd_tmp_files_t;
files_tmp_file(polaris_iosd_tmp_files_t)
files_tmp_filetrans(polaris_iosd_tmp_files_t, polaris_iosd_tmp_files_t, file, "boottime")
files_tmp_filetrans(polaris_iosd_tmp_files_t, polaris_iosd_tmp_files_t, file, "booted")
create_files_pattern(polaris_iosd_tmp_files_t, polaris_iosd_tmp_files_t, polaris_iosd_tmp_files_t)

#allow polaris_iosd_t polaris_udev_tmp_files_t:dir { getattr open read search };
#allow polaris_iosd_t polaris_udev_tmp_files_t:file { open, read, write };
# LOOK AT ME (need to review write access with iosd team)
polaris_udev_tmp_manage(polaris_iosd_t)

# work with /tmp/restconf
type polaris_restconf_tmp_t;
files_tmp_file(polaris_restconf_tmp_t)
polaris_restconf_tmp_use(polaris_iosd_t)

files_tmp_filetrans(polaris_restconf_tmp_t, polaris_restconf_tmp_t, dir, "restconf")
filetrans_pattern(polaris_restconf_tmp_t, polaris_restconf_tmp_t, polaris_restconf_tmp_t, file)

# work with /tmp/netio0
files_tmp_filetrans(polaris_iosd_t, polaris_iosd_tmp_files_t, dir, "netio0")
# sockets and dirs created under /tmp/netio0
manage_dirs_pattern(polaris_iosd_t, polaris_iosd_tmp_files_t, polaris_iosd_tmp_files_t)
manage_sock_files_pattern(polaris_iosd_t, polaris_iosd_tmp_files_t, polaris_iosd_tmp_files_t)
allow polaris_iosd_t self:unix_dgram_socket create_socket_perms;

gen_require(`
type inetd_child_t;

')

# sendto permission for /tmp/netio0/ttyC100
allow polaris_iosd_t inetd_child_t:unix_dgram_socket sendto;

polaris_socketat_nsfs_read(polaris_iosd_t)

# onep uses TIPC sockets see onep_tipc_transport_start
allow polaris_iosd_t self:socket { bind create listen accept getattr read ioctl setopt setopt);

# mcp_eobc_create_socket creates UDP socket for eobc
corenet_udp_bind_polaris_iosd_eobc_port(polaris_iosd_t)
gen_require(
    type node_t;
')
allow polaris_iosd_t node_t:udp_socket node_bind;
allow polaris_iosd_t self:udp_socket { bind create ioctl setopt read write };

# direct access to serial TTY devices like /dev/ttyS1
term_use_unallocated_ttys(polaris_iosd_t)

# on ultra cvac_load_config function tried to access cdrom0:/iosxe_config.txt
# and if exists read
ifdef('vxe_family',
    fs_read_iso9660_files(polaris_iosd_t)
')
ifdef('wlc_family',
    fs_read_iso9660_files(polaris_iosd_t)
')

# ifs_get_free_bytes invokes mcp_fs_statfs and eventually mcp_wrapper_statvfs
# with "/bootflash"...this needs attr access for "/"
fs_getattr_xattr_fs(polaris_iosd_t)

# iosc works with cpp /dev/shm/cpp_ifdev_shmem shared mmory
optional_policy(
    polaris_cpp_tmpfs_ifdev_rw(polaris_iosd_t)
')

# iosc reads/writes into grubenv for confreg
optional_policy(
    polaris_grub_efi_use(polaris_iosd_t)
')

# when /bootflash or /harddisk are 100% full
allow polaris_iosd_t self:capability sys_resource;

# mcp_set_clock wants to call settimeofday
allow polaris_iosd_t self:capability sys_time;

# Need this for bluetooth to work. HCI library uses this
allow polaris_iosd_t self:capability net_raw;

ifdef(`mcp_family',`
  polaris_obfl_data_read(polaris_iosd_t)
')

# iosd uses quack on mcp and crankshaft and ngwc
ifdef(`mcp_family',`
  polaris_quack_dev_use(polaris_iosd_t)
')
ifdef(`crankshaft_family',`
  polaris_quack_dev_use(polaris_iosd_t)
')
ifdef(`ngwc_family',`
  polaris_quack_dev_use(polaris_iosd_t)
')
ifdef(`qwlc_platform',`
  polaris_quack_dev_use(polaris_iosd_t)
')
ifdef(`katar_platform',`
  polaris_quack_dev_use(polaris_iosd_t)
')

ifdef(`mcp_family',`
  polaris_spa_dev_use(polaris_iosd_t)
  polaris_sysfs_platform_dev_use(polaris_iosd_t)
')

# on 1ng write/ioctl into /dev/cpld-ha
# on vwlc ha scenario, iosd needs write access to /dev/cpld-ha
optional_policy(`
  polaris_cpld_dev_use(polaris_iosd_t)
')

# deals with /dev/shm files semaphors; like uuid_sem semaphore
# created by btrace_get_uuid function
type polaris_iosd_tmpfs_t;
files_tmpfs_file(polaris_iosd_tmpfs_t)
fs_tmpfs_filetrans(polaris_iosd_t, polaris_iosd_tmpfs_t, file)
manage_files_pattern(polaris_iosd_t, tmpfs_t, polaris_iosd_tmpfs_t)
optional_policy(`
  polaris_iodb_tmp_manage(polaris_iosd_t)
')
# on ngwc FIPS code reads /tmp/hw_entropy
# seems like iosd can delete the file as well
polaris_hw_entropy_create(polaris_iosd_t)

optional_policy(
# on macallan iosd needs to access /dev/cpld
polaris_cpld_dev_read(polaris_iosd_t)
')

# on tsn iosd needs write access to
# sys/devices/platform/cpld/reg_rp_reset_button_status
# sys/devices/platform/cpn-110-master DSR/DTR status
ifdef('crankshaft_family',
    type polaris_quake_i2c_t;

polaris_cpld_write(polaris_iosd_t)
polaris_ggpio_dev_read_write(polaris_iosd_t)
polaris_quake_i2c_manage(polaris_iosd_t)
')

ifdef('katar_platform',
polaris_cpld_write(polaris_iosd_t)
')

# on tsn iosd needs access to /sys/devices/platform/moka_fpga
#/sys/devices/platform/moka_fpga/led_status
optional_policy(
polaris_mokafpga_rw(polaris_iosd_t)
')

# iosd reads /tmp/iosd_level
polaris_lm_tmp_read(polaris_iosd_t)

# iosd needs manage_dirs, manage_files and manage_link
# permissions at "/tmp/ufs/lic0/<remote_ip>/*"
optional_policy(
polaris_ncd_tmp_manage(polaris_iosd_t)
')

# access NFS mounted directories from other nodes or members
fs_getattr_nfs(polaris_iosd_t)

# mcp/mcprp/if_unix_se.c code works with /sys/devices/virtual/contdev
# files and /proc/net/dev
polaris_manage_contdev_dev(polaris_iosd_t)
kernal_read_network_state(polaris_iosd_t)
# ioxd creates /tmp/iox_xml.dat file
optional_policy('polaris_iox_manage_tmp_files(polaris_iosd_t)')

polaris_caf_var_run_files_manage(polaris_iosd_t)
container_read_lib_files(polaris_iosd_t)

# work with files like /tmp/rp/.shell_exec.5B1BF1D7648E21AEE3000002
 type polaris_iosd2iox_tmp_t;
 files_tmp_file(polaris_iosd2iox_tmp_t)
 files_tmp_filetrans(polaris_iosd2iox_tmp_t, polaris_iosd2iox_tmp_t, file)
 polaris_iosd2iox_tmp_manage(polaris_iosd_t)

# work with response
optional_policy('polaris_iox2iosd_tmp_manage(polaris_iosd_t)')

polaris_sandbox_file_dir_list(polaris_iosd_t)

# Lfts 2.0 ioxd provides route information to kernel. It talks
# using generic netlink family socket. See ioxd bsock_sar_netlink_process
# process
allow polaris_iosd_t self:netlink_generic_socket create_socket_perms;
allow polaris_iosd_t self:netlink_socket create_socket_perms;

# LOOK AT ME
# on nyquist ioxd accesses files like lic0-2:/sanosync.data.readLock
# from saLockCheck function and it happens just right after lic0-2 was
# mounted over NFSv4. It seems that labels from remote node did not
# take an effect yet. For now allow access to dir and files that
# are not yet labeled.
ifdef('nyquist_platform',
 files_manage_isid_type_dirs(polaris_iosd_t)
 files_manage_isid_type_files(polaris_iosd_t)
')

ifdef('ngwc_family',
polaris_getattr_filesystem_disk_ucode(polaris_iosd_t)
 # policy needed for accessing sys/bus/usb/drivers/usb/*/authorized
dev_rw_sysfs(polaris_iosd_t)
')

ifdef('passport_platform',
polaris_cm_rp_tmp_manage(polaris_iosd_t)
')

polaris_lfts_dev_use(polaris_iosd_t)
# /dev/shm/vrf_shm access for show command
polaris_vrf_shm_manage(polaris_iosd_t)

# /dev/shm/sdm access
optional_policy(
  polaris_sdm_shm_manage(polaris_iosd_t)
)

# iosd needs access to logging facility
logging_send_syslog_msg(polaris_iosd_t)

# iosd need access to /webui/*.odm files
polaris_read_webui_files(polaris_iosd_t)

# allow getting binos networking stats AF_NETLINK
allow polaris_iosd_t self:netlink_route_socket rw_netlink_socket_perms;

# confd needs to talk with IOSd via real linux udp snmp socket
allow polaris_iosd_t self:udp_socket { create_socket_perms recv_msg send_msg };
corenet_udp_bind_snmp_port(polaris_iosd_t)

# PLEASE LOOK AT code should not use sysv IPC ARIs,
# instead POSIX variants must be used. Remove after
# code changed in proper way
# allow access sysv semaphor created by qfp process
ifdef(`vxe_family',`
polaris_qfp_sem_use(polaris_iosd_t)
')
ifdef(`wlc_family',`
polaris_qfp_sem_use(polaris_iosd_t)
ifconfig_attach_tun_iface(polaris_iosd_t)
corenet_rw_tun_tap_dev(polaris_iosd_t)
')

# lsmpi replacement punt/inject over domain sockets
ifdef(`vxe_family',`
polaris_pi_uds_manage(polaris_iosd_t)
polaris_qfp_dgram_send(polaris_iosd_t)
corenet_rw_tun_tap_dev(polaris_iosd_t)
ifconfig_attach_tun_iface(polaris_iosd_t)
')

# CSR when operating in VGA mode uses /dev/tty0 as the console for the system
# (including IOSD). IOSD setup scripts pass in the tty device(s) to use in the
# REAL_CONSOLE and REAL_AUX environment variables. IOSD configures the tty
# for its operation and hence need the capability.
allow polaris_iosd_t self:capability sys_tty_config;
# LOOK AT ME: hot patch upon a reboot requires execmem operation - which
# currently is not allowed. Remove the following policy when CSCvq59763
# has been completed.
allow polaris_iosd_t self:process execmem;

# /dev/epaN on qwlc/asr1k(mcp)
optional_policy(
  polaris_epa_dev_use(polaris_iosd_t)
)

# /dev/qae_mem device access on overlord
optional_policy(
  polaris_qae_dev_use(polaris_iosd_t)
)

# ioucon binary invoked on standby console attach.
polaris_ioucon_dgram_send(polaris_iosd_t)

# usb device requires read permissions.
kernel_read_debugfs(polaris_iosd_t)

# iosd requires access to /tmp/sv
ifdef(`ngwc_family',`
polaris_sv_tmp_use(polaris_iosd_t)
ifconfig_attach_tun_iface(polaris_iosd_t)
corenethw_tun_tap_dev(polaris_iosd_t)
')
polaris_i2c_use(polaris_iosd_t)

# on CSR AWS deployment iosd needs read access to /dev/console
term_read_console(polaris_iosd_t)

# On vxe platforms the cloudint config is stored in /varied. We need
# to be able to read it.
ifdef(`vxe_family',`
polaris_disk_varied_read(polaris_iosd_t)
')

# In stacked and ha setup secondary SUP bootflash and hardisk
# are mounted on active and is accessed by iosd.
polaris_getattr_bootflash(polaris_iosd_t)
polaris_getattr_harddisk(polaris_iosd_t)

# read access to /dev/random
dev_read_rand(polaris_iosd_t)
# Allow access of /tmp/maroon_stats files
polaris_maroon_data_manage_all(polaris_iosd_t)

#access to /dev/bp_async device on nanook platform
optional_policy(
    polaris_bp_async_dev_use(polaris_iosd_t)
)

#Permission for access file attribute to list the file info
polaris_caf_tmp_files_getattr(polaris_iosd_t)

#DB persistence
polaris_tdldbpersist_setup(polaris_iosd_t)
polaris_tmp_tdldb.persist_setup(polaris_iosd_t)

# IOSCC needs access to /mnt/firmware for intelligent spa during bootup
polaris_firmware_read(polaris_iosd_t)

# On Sparrow platform: IOSd requires access to /dev/remap_mem0
# and /dev/usb_conole for OOB management
# Also allows access to /dev/sparrow_psu and /dev/net/tun
# /dev/shm/sem_dev_i2c_0 sempaphor
ifdef(`sparrow_platform',`
    gen_require(`
        type polaris_cm_cc_tmpfs_t;
    `)
polaris_remap_mem_dev_use(polaris_iosd_t)
term_use_usb_ttys(polaris_iosd_t)
polaris_sparrow_psu_dev_use(polaris_iosd_t)
polaris_i2c_sem_manage(polaris_iosd_t)
ifconfig_attach_tun_iface(polaris_iosd_t)
corenrt_rw_tun_tap_dev(polaris_iosd_t)
mmap_files_pattern(polaris_iosd_t, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)
`)

# On Blackheart platform: /dev/shm/sem_dev_i2c_0 sempaphor
# Allow access to /tmp/udev/etc/udev/msata/udev-info and /dev/net/tun
# Allow access to /dev/remap_mem0 for alarm port
ifdef(`blackheart_platform',`
    gen_require(`
        type polaris_cm_cc_tmpfs_t;
    `)
polaris_udev_access(polaris_iosd_t)
polaris_remap_mem_dev_use(polaris_iosd_t)
polaris_i2c_sem_manage(polaris_iosd_t)
ifconfig_attach_tun_iface(polaris_iosd_t)
corenrt_rw_tun_tap_dev(polaris_iosd_t)
mmap_files_pattern(polaris_iosd_t, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)
# handle /tmp/rp/.iosp_client_app token
type polaris_iosp_client_app_token_t;
files_tmp_file(polaris_iosp_client_app_token_t)
files_tmp_filetrans(polaris_iosd_t, polaris_iosp_client_app_token_t, file, ".iosp_client_app")
manage_files_pattern(polaris_iosd_t, polaris_iosp_client_app_token_t, polaris_iosp_client_app_token_t)

# handle /tmp/rp/.iosp_client_dmi token
type polaris_iosp_client_dmi_token_t;
files_tmp_file(polaris_iosp_client_dmi_token_t)
files_tmp_filetrans(polaris_iosd_t, polaris_iosp_client_dmi_token_t, file, ".iosp_client_dmi")
manage_files_pattern(polaris_iosd_t, polaris_iosp_client_dmi_token_t, polaris_iosp_client_dmi_token_t)

# handle /tmp/rp/.iosp_dmiauthd token
type polaris_dmiauthd_token_t;
files_tmp_file(polaris_dmiauthd_token_t)
files_tmp_filetrans(polaris_iosd_t, polaris_dmiauthd_token_t, file, ".iosp_dmiauthd")
manage_files_pattern(polaris_iosd_t, polaris_dmiauthd_token_t, polaris_dmiauthd_token_t)

# handle /tmp/rp/.iosp_gnmib token
type polaris_gnmib_token_t;
files_tmp_file(polaris_gnmib_token_t)
files_tmp_filetrans(polaris_iosd_t, polaris_gnmib_token_t, file, ".iosp_gnmib")
manage_files_pattern(polaris_iosd_t, polaris_gnmib_token_t, polaris_gnmib_token_t)

polaris_udev_tmp_watch(polaris_iosd_t)

# Interfaces needed for Aventus platform, allow access to
# /dev/shm/sem._dev_i2c_0 sempaphor
# /dev/usb_console for OOB management
# /dev/net/tun
# brctl process needs access to fifo_file
ifdef(`aventus_platform',`

gen_require(`
	type brctl_t;
	ype polaris_pman_t;

tytype polaris_cm_cc_tmpfs_t;
	ype ifconfig_t;

tytype polaris_i2c_device_t;


polaris_i2c_sem_manage(polaris_iosd_t)
ifconfig_attach_tun_iface(polaris_iosd_t)
corenet_rw_tun_tap_dev(polaris_iosd_t)
term_use_usb_ttys(polaris_iosd_t)
allow brctl_t polaris_pman_t: fifo_file append;
mmap_files_pattern(polaris_iosd_t, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)
alallow ifconfig_t polaris_i2c_device_t:chr_file { read write };
# allow access and modify files in /tftp/inv directory
# TODO Need to revisit this for further analysis
ifdef(`mcp_family',``
gen_require(`
    type tftpdir_rw_t;
``)
read_files_pattern(polaris_iosd_t, tftpdir_rw_t, tftpdir_rw_t)
``)

# allow access and modify awips file in /bootflash

gen_require(`
type polaris_awips_signature_file_t;
``)
filetrans_pattern(polaris_iosd_t, polaris_disk_bootflash_t, polaris_awips_signature_file_t, file, "awips.json")
allow polaris_iosd_t polaris_awips_signature_file_t:file { write create read open getattr unlink};

# handle geodb file access

type polaris_geodb_files_t;
polaris_disk_type(polaris_geodb_files_t)
filetrans_pattern(polaris_iosd_t, polaris_disk_bootflash_t, polaris_geodb_files_t, dir, ".geo")
filetrans_pattern(polaris_iosd_t, polaris_disk_harddisk_t, polaris_geodb_files_t, dir, ".geo")
polaris_geodb_files_manage(polaris_iosd_t)

# handle /var/ip_local_port_range

type polaris_ip_linux_port_var_t;
files_tmp_file(polaris_ip_linux_port_var_t)
files_var_filetrans(polaris_iosd_t, polaris_ip_linux_port_var_t, file, "ip_local_port_range")

# linux_iosd-imag access to file /var/ip_local_port_range
manage_files_pattern(polaris_iosd_t, var_t, polaris_ip_linux_port_var_t)

# Allow access to /bootflash/certs
polaris_wlc_ap_cert_manage(polaris_iosd_t)

# command “ls” on /var/ip_local_port_range

gen_require(`
    type polaris_shell_t;
``)
allow polaris_shell_t polaris_ip_linux_port_var_t:file getattr;

# handling /boot/vcpu_template.txt or /csl_p_0/vcpu_template.txt file
# created by iosd by platform resource config command

type polaris_iosd_vcpu_t;
files_type(polaris_iosd_vcpu_t)
gen_require(`
    type polaris_disk_csl_p_t;
type polaris_disk_varied_t;
')
filetrans_pattern(polaris_iosd_t, { polaris_disk_csl_p_t polaris_disk_varied_t }, polaris_iosd_vcpu_t, file, "vcpu_template.txt")
manage_files_pattern(polaris_iosd_t, { polaris_disk_csl_p_t polaris_disk_varied_t }, polaris_iosd_vcpu_t)

# allow open/read/search cgroup files like /sys/fs/cgroup/cpu,cpuacct/machine
fs_read_cgroup_files(polaris_iosd_t)
fs_search_cgroup_dirs(polaris_iosd_t)
# for Dynamic Core Allocation IOSd needs write access to cpu sets/shares
ifdef(`crankshaft_family',`
fs_write_cgroup_files(polaris_iosd_t)
')

# sdwan_admintech_generate() creates admintech and admintech_trace files
gen_require(')
    type polaris_admin_tech_data_t;
')
polaris_bootflash_filetrans(polaris_iosd_t, polaris_admin_tech_data_t, file, "admintech")
polaris_bootflash_filetrans(polaris_iosd_t, polaris_admin_tech_data_t, file, "admintech_trace")
filetrans_pattern(polaris_iosd_t, polaris_chasfs_t, polaris_admin_tech_data_t, file, "ios_admintech_done")
filetrans_pattern(polaris_iosd_t, polaris_chasfs_t, polaris_admin_tech_data_t, file, "ios_admintech_request")
polaris_admin_tech_data_manage(polaris_iosd_t)

# with "/bootflash"...this needs attr to access for logfile
polaris_user_file_getattr(polaris_iosd_t)
allow polaris_iosd_t polaris_user_file_t:file { open unlink);

#=======================================================
# petra platform
ifdef(`petra_platform',`
    # iosd need access to petra fpga
polaris_iots_fpga_dev_use(polaris_iosd_t)
    # iosd need access to memory devices
polaris_iots_tm_dev_use(polaris_iosd_t)
    #allow map permission for /dev/shm/TM_A53_APIs
allow polaris_iosd_t polaris_iosd_tmpfs_t:file {map};
    #allow access to polaris_cm_rp_t sem
polaris_cm_rp_sem_use(polaris_iosd_t)
    #allow access to userio
dev_rw_userio_dev(polaris_iosd_t)
    allow polaris_iosd_t userio_device_t:chr_file { map };
    #iosd need access to sysfs
dev_rw_sysfs(polaris_iosd_t)
    allow polaris_iosd_t sysfs_t:file { create map };
dev_manage_sysfs_dirs(polaris_iosd_t)
    # iosd need access to sdflash files image is stored
polaris_swipedrive_file_manage(polaris_iosd_t)
polaris_getattr_swipedrive(polaris_iosd_t)
    #iosd need access to mmcblk0p3

gen_require(
    type polaris_disk_recovery_t;
  )
allow polaris_iosd_t polaris_disk_recovery_t:filesystem getattr;
#iosd need access to mmcblk0p2
polaris_getattr_filesystem_disk_ucode(polaris_iosd_t)
# iosd need access to /dev/mvDmaDrv
polaris_mvDmaDrv_dev_use(polaris_iosd_t)
# iosd need access to /dev/mvIntDrv
polaris_mvIntDrv_dev_use(polaris_iosd_t)
#iosd need permission for LED
polaris_led_dev_use(polaris_iosd_t)
#iosd need access to rawip socket by initscripts/rc.d/init.d/iptables
allow polaris_iosd_t self:rawip_socket create_socket_perms;
#iosd needs access to /opt/cisco/caf/config/system-config.ini
polaris_caf_files_read(polaris_iosd_t)
#iosd need permission to /dev/rtc0 done via imsp_update_sw_hwclock()
dev_rw_realtime_clock(polaris_iosd_t)
  )
  # work with /tmp/usb-disable: create/write
type polaris_iosd_usb_disable_tmp_t;
files_tmp_file(polaris_iosd_usb_disable_tmp_t);
polaris_iosd_usb_disable_tmp_manage(polaris_iosd_t)
endif(`ngwc_family',`
  # SELINUX Mismatch warning when doing power redundancy configuration commands
  # Allow access /bootflash/nplusm-power
  polaris_nplusm_power_manage(polaris_iosd_t)
  )

optional_policy(
    polaris_efi_files_list_dirs(polaris_iosd_t)
  )
  )

  # work with /dev/shm/mq.-iosd_to_timingd
type polaris_iosd_timing_mqipc_t;
polaris_mqipc_type(polaris_iosd_timing_mqipc_t)
polaris_mqipc_create_name(polaris_iosd_t, polaris_iosd_timing_mqipc_t, iosd_to_timingd)

  # watch /tmp
  allow polaris_iosd_t tmp_t:dir watch;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisiosd.te
No license file was found, but licenses were detected in source scan.
### <summary>Polaris oct_dp_log_rp Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisoctdtplogrp.if
No license file was found, but licenses were detected in source scan.

### <summary>Polaris cedge Policy Rules.</summary>

### <summary>Manage /tmp/xml files and directories</summary>

### <summary>Domain allowed access.</summary>

```c
interface(`polaris_cedge_xml_tmp_manage',
    gen_require(
        type polaris_cedge_xml_tmp_t;
    
    manage_dirs_pattern($1, polaris_cedge_xml_tmp_t, polaris_cedge_xml_tmp_t)
    manage_files_pattern($1, polaris_cedge_xml_tmp_t, polaris_cedge_xml_tmp_t)
    files_tmp_filetrans($1, polaris_cedge_xml_tmp_t, dir, "xml")

    allow $1 polaris_cedge_xml_tmp_t:dir { watch mounton };
    allow $1 polaris_cedge_xml_tmp_t:file map;
)
```

### <summary>Manage /tmp/tmp files and directories</summary>

### <summary>Domain allowed access.</summary>
```c
#include<stdio.h>

int main()
{
    printf("Hello, World!
");
    return 0;
}
```
search_dirs_pattern($1, polaris_cedge_etc_t, polaris_cedge_etc_t)
read_files_pattern($1, polaris_cedge_etc_t, polaris_cedge_etc_t)
read_lnk_files_pattern($1, polaris_cedge_etc_t, polaris_cedge_etc_t)
files_etc_filetrans($1, polaris_cedge_etc_t, dir, "viptela")

#######################################
## <summary>
##      Watch cedge_etc directories and files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_cedge_etc_watch',`
gen_require(`
type polaris_cedge_etc_t;
')
   allow $1 polaris_cedge_etc_t:{ dir file } watch;
')

#######################################
## <summary>
##      Read access /var/run/netns/* performed from vip_util_set_ns
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_cedge_set_ns',`
   init_read_state($1)
   fs_read_nsfs_files($1)
   sysnet_manage_ifconfig_run($1)
')

#######################################
## <summary>
##      Read access /proc/1/ns/net performed from vip_util_reset_ns
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cedge_reset_ns',
    init_read_state($1)
')

interface('polaris_cedge_tmpfs_manage',
    gen_require(''
        type polaris_cedge_tmpfs_t;
        type tmpfs_t;
    ')
    fs_tmpfs_filetrans($1, polaris_cedge_tmpfs_t, file)
    manage_files_pattern($1, tmpfs_t, polaris_cedge_tmpfs_t)
    allow $1 polaris_cedge_tmpfs_t:file map;
')

interface('polaris_econfd2sysmgr_tmp_manage',
    gen_require(''
        type polaris_econfd2sysmgr_tmp_t;
    ')
    manage_dirs_pattern($1, polaris_econfd2sysmgr_tmp_t, polaris_econfd2sysmgr_tmp_t)
    manage_files_pattern($1, polaris_econfd2sysmgr_tmp_t, polaris_econfd2sysmgr_tmp_t)
    files_tmp_filetrans($1, polaris_econfd2sysmgr_tmp_t, dir, ".econfd2sysmgr-ipc")
    allow $1 polaris_econfd2sysmgr_tmp_t:dir watch;
')
## <summary>
##      Manage /tmp/* labeled with polaris_vconfd_cert_tmp_t
##             for vconfd_script_upload_root_ca.crt_chain.sh to access
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface(`polaris_vconfd_cert_tmp_manage',`
# gen_require(`
# type polaris_vconfd_cert_tmp_t;
# ')
# manage_dirs_pattern($1, polaris_vconfd_cert_tmp_t, polaris_vconfd_cert_tmp_t)
# manage_files_pattern($1, polaris_vconfd_cert_tmp_t, polaris_vconfd_cert_tmp_t)
# ')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscedge.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris cpp_driver Policy Rules.</summary>

##########################################################################
## <summary>
##      Allow access to semaphore with type polaris_cpp_driver_t
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface(`polaris_cpp_driver_sem_use',`
# gen_require(`
# type polaris_cpp_driver_t;
# ')
# allow $1 polaris_cpp_driver_t:sem rw_sem_perms;
# ')
### <summary>
### Allow access to shared memory with type polaris_cpp_driver_t
### </summary>

### <param name="domain">
### Domain allowed access.
### </param>

interface(`polaris_cpp_driver_shm_use',
    gen_require(
        type polaris_cpp_driver_t;
    
    allow $1 polaris_cpp_driver_t:shm rw_shm_perms;
    
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppdriver.if

No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky
#  
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#  

### <summary>Polaris polarisautoupgrade Policy Rules.</summary>

### <summary>
### Execute auto-upgrade scripts in their own domain
### </summary>

### <param name="domain">
### Domain allowed access.
### </param>

### <rolecap/>

#  
interface(`polaris_autoupgrade_domtrans',
    gen_require(
        type polaris_autoupgrade_t;
        type polaris_autoupgrade_exec_t;
    
    domtrans_pattern($1, polaris_autoupgrade_exec_t, polaris_autoupgrade_t)
Manage tmp files created by autoupgrade.

Domain allowed access.

interface(polaris_autoupgrade_tmp_manage,`
    gen_require(`
        type polaris_autoupgrade_tmp_t;
        `)

    manage_files_pattern($1, polaris_autoupgrade_tmp_t, polaris_autoupgrade_tmp_t)
    manage_lnk_files_pattern($1, polaris_autoupgrade_tmp_t, polaris_autoupgrade_tmp_t)
    manage_fifo_files_pattern($1, polaris_autoupgrade_tmp_t, polaris_autoupgrade_tmp_t)
    `)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisautoupgrade.if
No license file was found, but licenses were detected in source scan.

# October 2019, Patrick O'Halloran
#
# Copyright (c) 2019-2020 by Cisco Systems, Inc.
# All rights reserved
#

Polaris CRFT Policy Rules.

# CRFT policy

# Allow read-only access to CRFT generated files

### <param>
### <param name="file_type">
###   <summary>
###      File type of crft that corresponds to given domain.
###   </summary>
### </param>
### <rolebase/>
#
interface('polaris_crft_data_read',`
  gen_require(
    type polaris_crft_data_t;
    type polaris_crft_request_t;
    type polaris_crft_request_crft_t;
  )

read_lnk_files_pattern($1, polaris_crft_data_t, polaris_crft_data_t)
polaris_disk_bootflash_read_lnk($1)
polaris_disk_harddisk_read_lnk($1)
read_files_pattern($1, polaris_crft_request_crft_t, polaris_crft_request_crft_t)
allow $1 polaris_crft_request_t:fifo_file { ioctl write };
')

###########################################################
### <summary>
###      Manage crft persistent files
### </summary>
### <param name="domain">
###   <summary>
###      Domain allowed access.
###   </summary>
### </param>
### <rolebase/>
#
interface('polaris_crft_data_manage',`
  gen_require(
    type polaris_crft_data_t;
  )

manage_dirs_pattern($1, polaris_crft_data_t, polaris_crft_data_t)
manage_lnk_files_pattern($1, polaris_crft_data_t, polaris_crft_data_t)
manage_files_pattern($1, polaris_crft_data_t, polaris_crft_data_t)
# Note: Based on discussion with SElinux team, we need to call this
# out specifically here for lnk file access, as:
# - NGWC /harddisk -(symlink)-> /misc/scratch -(symlink)-> /mnt/sda3/user
polaris_disk_bootflash_read_lnk($1)
polaris_disk_harddisk_read_lnk($1)
allow $1 polaris_crft_data_t:file map;
')
interface('polaris_crft_data_manage_all',
    manage_files_pattern($1, polaris_crft_data_t, polaris_crft_data_domain)
    manage_link_files_pattern($1, polaris_crft_data_t, polaris_crft_data_domain)
    allow $1 polaris_crft_data_domain:file map;
)

interface('polaris_crft_data_type',
    files_type($1)
    polaris_pfile_type($1)
    gen_require(
        attribute polaris_crft_data_domain;
        type polaris_crft_data_t;
    )
)

interface('polaris_crft_data_manage',
    manage_files_pattern($1, polaris_crft_data_t, polaris_crft_data_domain)
    manage_link_files_pattern($1, polaris_crft_data_t, polaris_crft_data_domain)
    allow $1 polaris_crft_data_domain:file map;
)

interface('polaris_crft_data_type',
    files_type($1)
    polaris_pfile_type($1)
    gen_require(
        attribute polaris_crft_data_domain;
        type polaris_crft_data_t;
    )
)

interface('polaris_crft_data_manage',
    manage_files_pattern($1, polaris_crft_data_t, polaris_crft_data_domain)
    manage_link_files_pattern($1, polaris_crft_data_t, polaris_crft_data_domain)
    allow $1 polaris_crft_data_domain:file map;
)
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <param name="file_type">
##      <summary>
##      File type of crft that corresponds to given domain.
##      </summary>
## </param>
#
interface('polaris_crft_data_client',
  gen_require(
    type polaris_crft_data_t;
  ')
)

manage_dirs_pattern($1, polaris_crft_data_t, $2)
manage_files_pattern($1, polaris_crft_data_t, $2)
manage_lnk_files_pattern($1, polaris_crft_data_t, $2)
filetrans_pattern($1, polaris_crft_data_t, $2, file)
allow $1 $2:file map;
')

#######################################
## <summary>
##      Process to manage its own crft files
## </summary>
## <param name="domain_stem">
##      <summary>
##      Steam of domain allowed access.
##      </summary>
## </param>
#
interface('polaris_crft_data_client_template',
  gen_require(
    attribute polaris_crft_data_domain;
    type polaris_crft_data_t;
  ')
)

type polaris_$1_crft_t;
polaris_crft_data_type(polaris_$1_crft_t)
polaris_crft_data_client(polaris_$1_t, polaris_$1_crft_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscrft.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/cpp/bin/cpp_ha_top_level_server -- gen_context(system_u:object_r:polaris_cpp_ha_exec_t,s0)
/usr/cpp/bin/cpp_ha_top_level_server_legdp -- gen_context(system_u:object_r:polaris_cpp_ha_exec_t,s0)
/usr/cpp/bin/cpp_ha_top_level_server_us_legdp -- gen_context(system_u:object_r:polaris_cpp_ha_exec_t,s0)
/usr/cpp/bin/cpp_ha_top_level_server_vwlcp -- gen_context(system_u:object_r:polaris_cpp_ha_exec_t,s0)
/usr/cpp/bin/cpp_ha_top_level_server_vwlcp_legdp -- gen_context(system_u:object_r:polaris_cpp_ha_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppha.fc

No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscfg, 1.0);

******************************************************************************
# Cfg files policy
******************************************************************************

type polaris_cfg_data_t;
files_type(polaris_cfg_data_t)

gen_require('attribute polaris_extended_domain;
')

files_tmp_filetrans(polaris_extended_domain, polaris_cfg_data_t, dir, "cfg")

******************************************************************************
# cfg_sync.sh policy
******************************************************************************

polaris_utility_domain_template(cfg_sync)

polaris_bexecute_domain(polaris_cfg_sync_t, polaris_cfg_sync_exec_t)
polaris_boot_tmp_read(polaris_cfg_sync_t)
polaris_btrace_data_manage(polaris_cfg_sync_t)
polaris_chasfs_read(polaris_cfg_sync_t)
polaris_cpld_read(polaris_cfg_sync_t)
polaris_use_btrace_fifo(polaris_cfg_sync_t)

corecmd_exec_bin(polaris_cfg_sync_t)
auth_use_nsswitch(polaris_cfg_sync_t)

polaris_bootflash_read(polaris_cfg_sync_t)
polaris_nvram_manage(polaris_cfg_sync_t)
telnet_use_ptys(polaris_cfg_sync_t)

gen_require(' type rsync_t;
    )
rsync_entry_domtrans(polaris_cfg_sync_t, rsync_t)
allow rsync_t polaris_cfg_sync_t:process sigchld;
# file descriptor leak when rsync is called
allow rsync_t polaris_cfg_sync_t:fifo_file { write getattr };

logging_send_syslog_msg(polaris_cfg_sync_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscfg.te
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
# polarisvxeipcbaseauto file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_base_fc.m4
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris cm_fp Policy Rules.</summary>
<<<

### <summary>
### Execute cmd_fp in the polaris_cm_fp_t domain.
### </summary>
### <param name="domain">
### Domain allowed to transition.
### </param>

```cpp

interface('polaris_cm_fp_domtrans',
  gen_require(''
    type polaris_cm_fp_t, polaris_cm_fp_exec_t;
  ')

  corecmd_search_bin($1)
  domtrans_pattern($1, polaris_cm_fp_exec_t, polaris_cm_fp_t)

)```

### <summary>
### Allow the specified domain to manage cm_fp_tmp files
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>

```cpp

interface('polaris_cm_fp_tmp_manage',
  gen_require(''
    type polaris_cm_fp_tmp_t;
    type tmp_t;
  ')

  manage_files_pattern($1, [ polaris_cm_fp_tmp_t tmp_t ], polaris_cm_fp_tmp_t)

)```

### <summary>
### Create objects in /tmp with a polaris_cm_fp_tmp_t type using a type_transition.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>

```cpp

)```
### <summary>
### Allow access to semaphore with type polaris_cm_fp_t
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface('polaris_cm_fp_sem_use',
    gen_require(
        type polaris_cm_fp_t;
    ')
    allow $1 polaris_cm_fp_t:sem rw_sem_perms;
')

### <summary>
### Allow access to shared memory with type polaris_cm_fp_t
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface('polaris_cm_fp_shm_use',
    gen_require(
        type polaris_cm_fp_t;
    ')
    allow $1 polaris_cm_fp_t:shm rw_shm_perms;
')

### <summary>
### Allow access to /dev/hkp with type polaris_cm_fp_t
### </summary>
### <param name="domain">

<summary>Domain allowed access.<summary> </summary>

interface('polaris_hkp_dev_use',

gen_require(

type device_t;

type polaris_hkp_device_t;
')

write_chr_files_pattern($1, device_t, polaris_hkp_device_t)
read_chr_files_pattern($1, device_t, polaris_hkp_device_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmfp.if
No license file was found, but licenses were detected in source scan.

# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisifmgr file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisifmgr.fc
No license file was found, but licenses were detected in source scan.

# August 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris crankshaft Platform Policy Rules.<summary>

#########################################################
## <summary>Work (read, write, ioctl) with /dev/linux-(user|kernel)-bde devices
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
### <summary>
### Work (read, write, ioctl) with /dev/dash_fpga device
### </summary>

```
interface('polaris_dash_dev_use',
  gen_require(
    type device_t;
    type polaris_dash_device_t;
  )
  write_chr_files_pattern($1, device_t, polaris_dash_device_t)
  read_chr_files_pattern($1, device_t, polaris_dash_device_t)
  allow $1 polaris_dash_device_t:chr_file map;
)
```

### <summary>
### Work (read, write, ioctl) with /dev/huron_fpga device
### </summary>

```
interface('polaris_huron_dev_use',
  gen_require(
    type device_t;
    type polaris_huron_device_t;
  )
  write_chr_files_pattern($1, device_t, polaris_huron_device_t)
)
```
read_chr_files_pattern($1, device_t, polaris_huron_device_t)
allow $1 polaris_huron_device_t:chr_file map;
')

*****************************************************************************
## <summary>
## Work (read, write, ioctl) with /dev/dplr_sumatra
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
# interface('polaris_sumatra_doppler_dev_use',
  gen_require(
    type device_t;
    type polaris_sumatra_doppler_device_t;
  )
write_chr_files_pattern($1, device_t, polaris_sumatra_doppler_device_t)
read_chr_files_pattern($1, device_t, polaris_sumatra_doppler_device_t)
allow $1 polaris_sumatra_doppler_device_t:chr_file map;
')

*****************************************************************************
## <summary>
## Work (open, read, write, ioctl) with /dev/sirius_fpga device
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
# interface('polaris_sirius_fpga_dev_use',
  gen_require(
    type device_t;
    type polaris_siriusfpga_device_t;
  )
  rw_chr_files_pattern($1, device_t, polaris_siriusfpga_device_t);
')

*****************************************************************************
## <summary>
## Work (read, write, ioctl) with /dev/nios device
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
##
## <summary>
## Work (read, write, ioctl) with /dev/qae_mem device
## <summary>
## <param name="domain">
## Domain allowed access.
## <summary>
## </param>
#
interface('polaris_qae_dev_use',
    gen_require(
        device_t;
        type polaris_qae_device_t;
')
write_chr_files_pattern($1, device_t, polaris_qae_device_t)
read_chr_files_pattern($1, device_t, polaris_qae_device_t)')

-----------------------------------------------------------------------------------------
## <summary>
## Read mokafpga files in /sys/devices/platform directory
## <summary>
## <param name="domain">
## Domain allowed access.
## <summary>
## </param>
#
interface('polaris_mokafpga_read',
    gen_require(
        type polaris_sysfs_mokafpga_t;
        type sysfs_t;
')
read_files_pattern($1, polaris_sysfs_mokafpga_t, polaris_sysfs_mokafpga_t)
list_dirs_pattern(1, polaris_sysfs_mokafpga_t, polaris_sysfs_mokafpga_t)

######################################
## <summary>
##      Work (read, write, ioctl) with /dev/moka_fpga
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_mokafpga_dev_use',
    gen_require(
        type device_t;
        type polaris_mokafpga_device_t;
    )
    write_chr_files_pattern(1, device_t, polaris_mokafpga_device_t)
    read_chr_files_pattern(1, device_t, polaris_mokafpga_device_t)
)

######################################
## <summary>
##      Work (read, write, ioctl) with /dev/nim_dm_0_1 and
## /dev/nim_dm devices
## </summary>
## <param name="domain">
##      <summary>
## Domain allowed access.

```c
interface('polaris_nim_dm_dev_use',

gen_require(

type device_t;

type polaris_nim_dm_device_t;

write_chr_files_pattern($1, device_t, polaris_nim_dm_device_t)
read_chr_files_pattern($1, device_t, polaris_nim_dm_device_t)
allow $1 polaris_nim_dm_device_t:chr_file map;
allow $1 device_t:chr_file map;
)
```

########################################
## Execute a domain transition to run load_usbnet.sh.
## <param name="domain">
##  Domain allowed to transition.
## </param>

```c
interface('polaris_load_usbnet_domtrans',

gen_require(

type polaris_load_usbnet_t, polaris_load_usbnet_exec_t;

 domtrans_pattern($1, polaris_load_usbnet_exec_t, polaris_load_usbnet_t)
)
```

########################################
## Label and allow access to i2c semaphore files.
## <param name="domain">
##  Domain allowed access.
## </param>

```c
interface('polaris_i2c_sem_manage',

gen_require(

type tmpfs_t;

type polaris_cm_cc_tmpfs_t;
```
manage_files_pattern($1, tmpfs_t, polaris_cm_cc_tmpfs_t)
mmap_files_pattern($1, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)

#############################
## <summary>
## Work (read, write, ioctl) with /dev/bp_async device
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_bp_async_dev_use',`
  gen_require(`
    type device_t;
    type polaris_bp_async_device_t;
  `)
  write_chr_files_pattern($1, device_t, polaris_bp_async_device_t)
  read_chr_files_pattern($1, device_t, polaris_bp_async_device_t)
  allow $1 polaris_bp_async_device_t:chr_file map;
`)

#############################
## <summary>
## Label and allow access to i2c semaphore files.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_udev_access',`
  gen_require(`
    type tmpfs_t;
    type polaris_udev_tmp_files_t;
  `)
  manage_files_pattern($1, tmpfs_t, polaris_udev_tmp_files_t)
`)

#############################
## <summary>
## Work (read, write, ioctl) with /dev/sparrow_psu device
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_sparrow_psu_dev_use',
    gen_require(
        type device_t;
        type polaris_sparrow_psu_device_t;
    )
    write_chr_files_pattern($1, device_t, polaris_sparrow_psu_device_t)
    read_chr_files_pattern($1, device_t, polaris_sparrow_psu_device_t)
')

### Work (read, write, ioctl) with /dev/nutella_fpga device
## <summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_nutella_fpga_dev_use',
    gen_require(
        type device_t;
        type polaris_nutella_fpga_device_t;
    )
    write_chr_files_pattern($1, device_t, polaris_nutella_fpga_device_t)
    read_chr_files_pattern($1, device_t, polaris_nutella_fpga_device_t)
')

### Read and write to qcqmi devices.
## <summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_qcqmi_dev_use',
    gen_require(
        type device_t, qcqmi_device_t;
    )
    rw_chr_files_pattern($1, device_t, qcqmi_device_t)
Work (read, write, ioctl) with /dev/sm_nim_adpt device files

Domain allowed access.

Domain allowed access.

Domain allowed access.

Domain allowed access.

Domain allowed access.

Domain allowed access.

Domain allowed access.

Domain allowed access.

Domain allowed access.
## <summary>
## Domain allowed access.
## </summary>
#

interface(`polaris_dio_dev_read',
    gen_require(`
        type device_t;
        type polaris_dio_device_t;
    `)
    read_chr_files_pattern($1, device_t, polaris_dio_device_t)
    `)


## <summary>
## Work (read, write, ioctl) with /dev/ttyNMEA* and /dev/ttyTunNMEA*
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#

interface(`polaris_tty_NMEA_dev_use',
    gen_require(`
        type device_t;
        type polaris_tty_NMEA_device_t;
    `)
    write_chr_files_pattern($1, device_t, polaris_tty_NMEA_device_t)
    read_chr_files_pattern($1, device_t, polaris_tty_NMEA_device_t)
    allow $1 polaris_tty_NMEA_device_t:chr_file map;
    `)

## <summary>
## Read /dev/ttyNMEA* and /dev/ttyTunNMEA*
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#

interface(`polaris_tty_NMEA_dev_read',
    gen_require(`
        type device_t;
        type polaris_tty_NMEA_device_t;
    `)
read_chr_files_pattern($1, device_t, polaris_tty_NMEA_device_t)
')

#############################################################################
## <summary>
## Work (read, write, ioctl) with /dev/nim_phy
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(‘polaris_nim_phy_dev_use’,
    gen_require(‘
    type device_t;
    type polaris_nim_phy_device_t;
    ’)
    read_chr_files_pattern($1, device_t, polaris_nim_phy_device_t)
    allow $1 polaris_nim_phy_device_t:chr_file map;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscrankshaft.if
No license file was found, but licenses were detected in source scan.

dnl
July 2020, Victor Kamensky
dnl
Copyright (c) 2020 by Cisco Systems, Inc.
dnl All rights reserved

c8kv Platform Max Bay Limits
max_bay_map_set(‘rp’, ‘per_bay’, 0)
max_bay_map_set(‘cc’, ‘per_bay’, 3)
max_bay_map_set(‘fp’, ‘per_bay’, 0)

max_bay_ripc_map_set(‘rp’, ‘per_bay’, 0)
max_bay_ripc_map_set(‘cc’, ‘per_bay’, 3)
max_bay_ripc_map_set(‘fp’, ‘per_bay’, 0)

max_bay_ripc_map_set(‘rp’, ‘global’, 0)
max_bay_ripc_map_set(‘cc’, ‘global’, 3)
max_bay_ripc_map_set(‘fp’, ‘global’, 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/c8kvmaps.m4
No license file was found, but licenses were detected in source scan.

#
# August 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#
#
#/bootflash labels
/bootflash(/.*)?              gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
/bootflash/ssh(/.*)?          gen_context(system_u:object_r:sshd_key_t,s0)
/bootflash/ssh/ssh_host.*_key\,pub gen_context(system_u:object_r:sshd_key_t,s0)
/bootflash/ssh/ssh_host.*_key  gen_context(system_u:object_r:sshd_key_t,s0)
/bootflash/tracelogs(/.*)?    gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/bootflash/tan(/.*)?          gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/bootflash/core(/.*)?         gen_context(system_u:object_r:polaris_core_file_t,s0)
/bootflash/debug.conf         gen_context(system_u:object_r:polaris_debug_conf_t,s0)
/bootflash/packages.conf      gen_context(system_u:object_r:polaris_packages_conf_t,s0)

#echostore/.swtam for hybrid TAM access
#objstore(/.*)?               gen_context(system_u:object_r:polaris_disk_objstore_t,s0)

/csl_p_0(/.*)?                gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
/csl_p_1(/.*)?                gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
/csl_s_0(/.*)?                gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)
/csl_s_1(/.*)?                gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)
/obfl(/.*)?                   gen_context(system_u:object_r:polaris_obfl_data_t,s0)

# not really a license file stored by iosd during platform resource config command
/csl_p_0/vcpu_template.txt   gen_context(system_u:object_r:polaris_iosd_vcpu_t,s0)

# nvram devices
/dev/bootflash2 -b           gen_context(system_u:object_r:polaris_nvram_file_t,s0)
/dev/bootflash3 -b           gen_context(system_u:object_r:polaris_nvram_file_t,s0)
/dev/sda2       -b           gen_context(system_u:object_r:polaris_nvram_file_t,s0)
/dev/sda3       -b           gen_context(system_u:object_r:polaris_nvram_file_t,s0)

/dev/linux-user-bde -c       gen_context(system_u:object_r:polaris_bde_device_t,s0)
/dev/linux-kernel-bde -c     gen_context(system_u:object_r:polaris_bde_device_t,s0)

/dev/dash_fpga -c            gen_context(system_u:object_r:polaris_dash_device_t,s0)
/dev/dash_fpga_cc0 -c        gen_context(system_u:object_r:polaris_dash_device_t,s0)
/dev/dash_fpga_cc1 -c        gen_context(system_u:object_r:polaris_dash_device_t,s0)
/dev/dash_fpga_cc2 -c        gen_context(system_u:object_r:polaris_dash_device_t,s0)
/dev/dash_fpga_cc3 -c        gen_context(system_u:object_r:polaris_dash_device_t,s0)
/dev/dash_fpga_nios -c       gen_context(system_u:object_r:polaris_dash_device_t,s0)
/dev/huron_fpga -c gen_context(system_u:object_r:polaris_huron_device_t,s0)
/dev/dplr_sumatra -c gen_context(system_u:object_r:polaris_sumatra_doppler_device_t,s0)
/dev/nios -c gen_context(system_u:object_r:polaris_nios_device_t,s0)
/dev/qae_mem -c gen_context(system_u:object_r:polaris_qae_device_t,s0)
/dev/icp_adf_gige_wd -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev0_csr -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev0_ring -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev_mem -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev_mem_page -c gen_context(system_u:object_r:polaris_icp_device_t,s0)

# moka fpga
/dev/moka_fpga -c gen_context(system_u:object_r:polaris_mokafpga_device_t,s0)
/dev/moka_fpga_cc -c gen_context(system_u:object_r:polaris_mokafpga_device_t,s0)

# for load usbnet module
/usr/binos/conf/load_usbnet.sh -- gen_context(system_u:object_r:polaris_load_usbnet_exec_t,s0)
/dev/nim_dm -c gen_context(system_u:object_r:polaris_nim_dm_device_t,s0)
/dev/nim_dm_0_1 -c gen_context(system_u:object_r:polaris_nim_dm_device_t,s0)
/dev/nim_phy -c gen_context(system_u:object_r:polaris_nim_phy_device_t,s0)

# file-system on blackheart/sparrow
# /crashinfo is symbolic link to /flash1
/crashinfo gen_context(system_u:object_r:polaris_disk_crashinfo_t,s0)

# /flash is symbolic link to /flash1
# /flash0 NVRAM
# /flash0(\.*)? gen_context(system_u:object_r:polaris_nvram_file_t,s0)

# /flash1 Bootflash
# /flash1(\.*)? gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# /flash1/tracelogs(\.*)? gen_context(system_u:object_r:polaris_btrace_data_t,s0)
# /flash1/.geo(\.*)? gen_context(system_u:object_r:polaris_geodb_files_t,s0)
# /flash1/USWAP(\.*)? gen_context(system_u:object_r:polaris_uswap_files_t,s0)
# /flash1/dbpersist(\.*)? gen_context(system_u:object_r:polaris_disk_dbm_t,s0)
# /flash1/debug.conf -- gen_context(system_u:object_r:polaris_debug_conf_t,s0)
# /flash1/packages.conf gen_context(system_u:object_r:polaris_packages_conf_t,s0)
# /flash1/core(\.*)? gen_context(system_u:object_r:polaris_core_file_t,s0)
# /flash1/rollback_timer(\.*)? gen_context(system_u:object_r:polaris_rbtimer_bootflash_t,s0)
# /flash1/installer(\.*)? gen_context(system_u:object_r:polaris_disk_install_t,s0)
# /flash1/ssh(\.*)? gen_context(system_u:object_r:ssh_home_t,s0)
# /flash1/ssh_host.*_key\.*pub gen_context(system_u:object_r:sshd_key_t,s0)
/flash1/.ssh/ssh_host.*_key  gen_context(system_u:object_r:sshd_key_t,s0)

# /flash3 OBFL
/flash3/(.*)?  gen_context(system_u:object_r:polaris_obfl_data_t,s0)
/flash3/OBFL/(.*)?  gen_context(system_u:object_r:polaris_obfl_data_t,s0)

#harddisk
/vol/harddisk/(.*)?  gen_context(system_u:object_r:polaris_disk_harddisk_t,s0)
/mnt/msata/(.*)?  gen_context(system_u:object_r:polaris_disk_harddisk_t,s0)

# for usage by IOx
/vol/usb1/(.*)?  gen_context(system_u:object_r:polaris_disk_harddisk_t,s0)

/dev/shm/sem\._dev_i2c_0  gen_context(system_u:object_r:polaris_cm_cc_tmpfs_t,s0)
/dev/shm/sem\._dev_i2c_1  gen_context(system_u:object_r:polaris_cm_cc_tmpfs_t,s0)
/dev/shm/sem\._dev_i2c_2  gen_context(system_u:object_r:polaris_cm_cc_tmpfs_t,s0)
/tmp/udev/etc/udev/msata/udev-info  gen_context(system_u:object_r:polaris_udev_tmp_files_t,s0)

# Nvram symlink on Aventus platform
/aventus_config/nvram  gen_context(system_u:object_r:polaris_nvram_file_t,s0)

# Nvram symlink on Cabo platform
/cabo_config/nvram  gen_context(system_u:object_r:polaris_nvram_file_t,s0)

# Device applicable to Betelgeuse platform
/dev/sirius_fpga  gen_context(system_u:object_r:polaris_siriusfpga_device_t,s0)

# Device applicable to Nanook platform
/dev/bp_async -c  gen_context(system_u:object_r:polaris_bp_async_device_t,s0)

# Device applicable to Sparrow platform
/dev/remap_mem0 -c  gen_context(system_u:object_r:polaris_remap_mem_device_t,s0)
/dev/sparrow_psu -c  gen_context(system_u:object_r:polaris_sparrow_psu_device_t,s0)
/dev/dio-upstream -c  gen_context(system_u:object_r:polaris_dio_device_t,s0)
/dev/dio-[1-4] -c  gen_context(system_u:object_r:polaris_dio_device_t,s0)
/dev/ttyNMEA[0-1] -c  gen_context(system_u:object_r:polaris_tty_NMEA_device_t,s0)
/dev/ttyTunNMEA[0-1] -c  gen_context(system_u:object_r:polaris_tty_NMEA_device_t,s0)

# Device applicable to Nutella platform
/dev/nutella_fpga -c  gen_context(system_u:object_r:polaris_nutella_fpga_device_t,s0)

# Only qcqmi0 and qcqmi1 are generated for Telit/SWI modems
/dev/qcqmi0 -c  gen_context(system_u:object_r:qcqmi_device_t,s0)
/dev/qcqmi1 -c  gen_context(system_u:object_r:qcqmi_device_t,s0)

#SM NIM Adpater Switzer-CC device files
policy_module(polariscmfp, 1.0);

gen_require(''
    type polaris_cm_fp_t;
')

polaris_btrace_data_manage(polaris_cm_fp_t)
polaris_crft_data_manage(polaris_cm_fp_t)
polaris_chasfsmanage(polaris_cm_fp_t)
polaris_tdlresolve_read(polaris_cm_fp_t)
polaris_tdldb_list_dirs(polaris_cm_fp_t)
polaris_cpld_read(polaris_cm_fp_t)
polaris_flashlib_read(polaris_cm_fp_t)
polaris_ripc_sman_ui_serv_connect(polaris_cm_fp_t)
polaris_cpld_dev_use(polaris_cm_fp_t)
polaris_proc_rmonbifo_read(polaris_cm_fp_t)
polaris_obfl_data_read(polaris_cm_fp_t)
polaris_persistent_list_dirs(polaris_cm_fp_t)
polaris_chasync_files_manage(polaris_cm_fp_t)

# cman_fp creates /tmp/cpp_anon_db file, instead of adding it to polaris_cpp_domain
# let us just grant access to cpp tmp files
polaris_cpp_tmp_files_use(polaris_cm_fp_t, "cpp_anon_db")
# on 1ng works with /dev/cpp
polaris_cpp_dev_use(polaris_cm_fp_t)

# work with /dev/i2c devices
polaris_i2c_use(polaris_cm_fp_t)

# on ultra read eeprom through i2c
# type=AVC msg=audit(1479556298.842:11): avc: denied {getattr} for pid=5464 comm="cman_fp"
path="/sys/devices/i2c-0/i2c-1/1-0056/eeprom" dev="sysfs" ino=25556
scontext=system_u:system_r:polaris_cm_fp_t:s0 tcontext=system_u:object_r:sysfs_t:s0 tclass=file
# type=AVC msg=audit(1479556298.842:12): avc: denied {read write} for pid=5464 comm="cman_fp"
name="eeprom" dev="sysfs" ino=25556 scontext=system_u:system_r:polaris_cm_fp_t:s0
tcontext=system_u:object_r:sysfs_t:s0 tclass=file
dev rw sysfs(polaris_cm_fp_t)
polaris_icc_broken_relocations(polaris_cm_fp_t)

allow polaris_cm_fp_t self:udp_socket { create ioctl };

# cman_fp can start dyncfg_setup.sh, allow its transition to dyncfg_t type
polaris_dyncfg_domtrans(polaris_cm_fp_t)

# on 1ng cman_fp write into /bootflash/crypto/octeon_pci_console_dev0_20170723_075412.log
polaris_bootflash_manage(polaris_cm_fp_t)

polaris_disk_harddisk_read_lnk(polaris_cm_fp_t)

# write to devices like this /proc/bus/pci/04/00.0
kernel_read_system_state(polaris_cm_fp_t)
kernal_write_proc_files(polaris_cm_fp_t)

# cm_fp tmp files like /tmp/octeon-remote-lock-pci:0
type polaris_cm_fp_tmp_pci_t;
files_tmp_file(polaris_cm_fp_tmp_pci_t)
polaris_cm_fp_tmp_filetrans(polaris_cm_fp_t)
polaris_cm_fp_tmp_manage(polaris_cm_fp_t)
# besides /tmp/octeon-remote-lock-pci:0 all other files in /tmp
# are ours
files_tmp_filetrans(polaris_cm_fp_t, polaris_cm_fp_tmp_pci_t, file)
# LOOK AT ME: raw memory write access
ifdef(`mcp_family',`
polaris_dev_mem_use(polaris_cm_fp_t)
')

# LOOK AT ME: raw memory access in cavium vendor SDK
# related to octeon driver (BUG CSCvh55517)
ifdef(`crankshaft_family',`
polaris_dev_mem_use(polaris_cm_fp_t)
')

# LOOK AT ME: raw memory access in dopler SDK remove after
# CSCvm34516 is fixed using CSCvm34630
ifdef(`starfleet_platform',`
polaris_dev_mem_use(polaris_cm_fp_t)
')

# "show platform hardware slot F0 eobc interface standby rmon" leads to
# ioctl() call from cmllib_get_eobc_drv_info().
kernel_request_load_module(polaris_cm_fp_t)

# needed for "show platform hardware slot F0 eobc interface standby rmon"
kernel_read_network_state(polaris_cm_fp_t)

# on RP2/RP3 linecard cyan init happens within cm
ifdef(`mcp_family',`
polaris_dyncfg_setup(polaris_cm_fp_t)
')

allow polaris_cm_fp_t self:capability dac_override;

polaris_obfl_data_manage(polaris_cm_fp_t)

allow polaris_cm_fp_t self:netlink_route_socket rw_netlink_socket_perms;

ifdef(`ngwc_family',`

# cmfp_asic_mmap_func() function in cmfp module uses
# /dev/chdrvmmmap for asic memory mapping
polaris_chdrvmmmap_dev_use(polaris_cm_fp_t)

# on macallan cmfp needs access to /dev/cisco/dplriomem
# for mappin dplr io memory to application space.
polaris_dplr_iomem_mmapdrv_dev_use(polaris_cm_fp_t);

# on macallan iomd needs access to /dev/cisco/fpgaioem
# for mapping FPGA io memory to application space.
polaris_fpga_iomem_mmapfpga_dev_use(polaris_cm_fp_t);')
optional_policy(
  # Allow /dev/dmammap access
  polaris_dmammap_dev_use(polaris_cm_fp_t)
)

  # on starfleet need access to
  # /sys/device/platform/cpld/reg_fan_control
  polaris_cpld_write(polaris_cm_fp_t)

  # /dev/shm/sdm access
  optional_policy(
    polaris_sdm_shm_manage(polaris_cm_fp_t)
  )

  logging_send_syslog_msg(polaris_cm_fp_t)

  # /dev/epactrlN on qwlc
  optional_policy(
    polaris_epa_dev_use(polaris_cm_fp_t)
  )

  # /dev/astro on qwlc
  optional_policy(
    polaris_astro_dev_use(polaris_cm_fp_t)
  )

  # /dev/cpp_il on qwlc
  optional_policy(
    polaris_cpp_il_dev_use(polaris_cm_fp_t)
  )

  # on radium need to get model info
  optional_policy(
    polaris_dash_dev_use(polaris_cm_fp_t)
  )

  # on neptune, cavium library in o2_cavm_mem_map wants access to
  # /sys/devices/pci0000:00/0000:00:01.0/0000:01:00.0/resource0
  optional_policy(
    polaris_cpp_cavium_dma_map(polaris_cm_fp_t)
  )

  # /dev/aikido access
  polaris_aikido_dev_use(polaris_cm_fp_t)

  optional_policy(
    # betelgeuse need access to /dev/sirius_fpga
polaris_sirius_fpga_dev_use(polaris_cm_fp_t)
)

# access SERDES /tmp/serdes_asic_key_dir/*
optional_policy('polaris_serdes_asic_key_tmp_manage(polaris_cm_fp_t)
')

type polaris_hkp_device_t;
dev_node(polaris_hkp_device_t)

# access /dev/iocp0
optional_policy('polaris_spa_dev_use(polaris_cm_fp_t)
')

optional_policy(' # access /dev/hkp
polaris_hkp_dev_use(polaris_cm_fp_t)
')
polaris_n2_dev_use(polaris_cm_fp_t)
polaris_cy2213_dev_use(polaris_cm_fp_t)
polaris_ddr_dev_use(polaris_cm_fp_t)
polaris_vega_dev_use(polaris_cm_fp_t)
')
polaris_firmware_read(polaris_cm_fp_t)

# allow access to /csl_p_0/vcpu_template.txt
polaris_iosd_vcpu_read(polaris_cm_fp_t)

# allow Cabo access to i2c semaphores
ifdef('cabo_platform',
polaris_i2c_sem_manage(polaris_cm_fp_t)
')
ifdef('sumatra_platform',
# access huron fpga on sumatra
polaris_huron_dev_use(polaris_cm_fp_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmfp.te
No license file was found, but licenses were detected in source scan.

#
# December 2018, Victor Kamensky
#
policy_module(polarisrpic, 1.0);

No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl divert(-1)

include("polaris_process.m4")
include("polaris_process.fc.m4")

include("polaris_ipc_mqipc.m4")
include('polaris_ipc_mqipc_fc.m4')
include('polaris_ipc_ripc.m4')
include('polaris_ipc_ripc_fc.m4')
include('polaris_ipc_lipc.m4')
include('polaris_ipc_lipc_fc.m4')
dnl Stub out non existent one
define('polaris_websocket_service_server','
define('polaris_cipc_service_server','
include('polaris_max_scope.m4')
divert(0)dnl
#
# This is a generated file! Instead of modifying this file,
# modify proper platform TDL file.
#
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_fc.m4
No license file was found, but licenses were detected in source scan.
#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polarisstorage, 1.0);

########################################################################
# Persistent storage policy
########################################################################
attribute polaris_disk;

# Default disk types
type polaris_disk_bootflash_t;
polaris_disk_type(polaris_disk_bootflash_t)

type polaris_disk_varied_t;
polaris_disk_type(polaris_disk_varied_t)

type polaris_disk_harddisk_t;
polaris_disk_type(polaris_disk_harddisk_t)
type polaris_disk_csl_p_t;
polaris_disk_type(polaris_disk_csl_p_t)

type polaris_disk_csl_s_t;
polaris_disk_type(polaris_disk_csl_s_t)

type polaris_disk_objstore_t;
polaris_disk_type(polaris_disk_objstore_t)

type polaris_disk_crashinfo_t;
polaris_disk_type(polaris_disk_crashinfo_t)

type polaris_disk_license_t;
polaris_disk_type(polaris_disk_license_t)

type polaris_disk_ucode_t;
polaris_disk_type(polaris_disk_ucode_t)

type polaris_disk_recovery_t;
polaris_disk_type(polaris_disk_recovery_t)

type polaris_disk_config_t;
polaris_disk_type(polaris_disk_config_t)

# Persistent files types

type polaris_system_report_t;
polaris_pfile_type(polaris_system_report_t)

type polaris_core_file_t;
polaris_pfile_type(polaris_core_file_t)

type polaris_debug_conf_t;
polaris_pfile_type(polaris_debug_conf_t)

type polaris_packages_conf_t;
polaris_pfile_type(polaris_packages_conf_t)

type polaris_grub_efi_t;
polaris_pfile_type(polaris_grub_efi_t)

# we label .ssh files residing on persistent storage as ssh_home_t
# and sshd_key_t
#
# below statement could/should be moved into ssh te file?
gen_require`
    type ssh_home_t;
type sshd_key_t;
polaris_disk_type(ssh_home_t)
polaris_disk_type(sshd_key_t)

# handling /bootflash directory - created by systemd unit, note normally
# something will be mounted on top of it, but in some cases like RP2 line
# cards it will be ramfs directory.
gen_require(
    type root_t;
    type unconfined_service_t;
)
filetrans_pattern(unconfined_service_t, root_t, polaris_disk_bootflash_t, dir, "bootflash")

# nfsd accesses different persistent storage directories and it needs getattr
gen_require(
    type nfsd_t;
)
polaris_persistent_getattr(nfsd_t)

# on qwlc /misc/scratch symbolic link created by systemd-tmpfile, but then
# removed and recreated by harddisk mount systemd unit
gen_require(
    type unconfined_service_t;
    type mnt_t;
)
filetrans_pattern(unconfined_service_t, mnt_t, polaris_disk_bootflash_t, lnk_file, "scratch")

gen_require(
    type polaris_confd_t;
    type tmp_t;
)
filetrans_pattern(polaris_confd_t, tmp_t, polaris_packages_conf_t, file, "packages.conf")

# first time creation of /bootflash/core directory
gen_require(
    type initrc_t;
    type init_t;
)
filetrans_pattern({initrc_t init_t unconfined_service_t}, {polaris_disk_bootflash_t polaris_disk_harddisk_t} ,
polaris_core_file_t, dir, "core")

gen_require(
    type init_t;
)
files_tmp_filetrans(init_t, polaris_packages_conf_t, file, "packages.conf")
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#  
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/binos/conf/run_ioxn_gs_ha.sh -- gen_context(system_u:object_r:polaris_gsd_rp_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisgsdrp.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#  
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/cpp/bin/cpp_sp_svr -- gen_context(system_u:object_r:polaris_cpp_sp_exec_t,s0)
/usr/cpp/bin/cpp_sp_svr_ledp -- gen_context(system_u:object_r:polaris_cpp_sp_exec_t,s0)
/usr/cpp/bin/cpp_sp_svr_us_ledp -- gen_context(system_u:object_r:polaris_cpp_sp_exec_t,s0)
/usr/cpp/bin/cpp_sp_svr_vwlc -- gen_context(system_u:object_r:polaris_cpp_sp_exec_t,s0)
/usr/cpp/bin/cpp_sp_svr_vwlc_ledp -- gen_context(system_u:object_r:polaris_cpp_sp_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppsp.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#  
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris Btrace Policy Rules.</summary>

******************************************************************************
# Btrace policy
******************************************************************************

******************************************************************************
# Manage btrace auxiliary files

******************************************************************************
manage_dirs_pattern($1, polaris_btrace_base_t, polaris_btrace_base_t)

# work with cache files and dirs under /tmp/tmppub, like /tmp/tmppub/libs_cache
polaris_btrace_tmppub_manage($1)

fs_tmpfs_filetrans($1, polaris_btrace_tmpfs_t, file, "oper_uuid_shm")
manage_files_pattern($1, tmpfs_t, polaris_btrace_tmpfs_t)
allow $1 polaris_btrace_tmpfs_t:file map;
'

polaris_btrace_data_manage($1)

generate(require(
    attribute polaris_btrace_data_domain;
    type polaris_btrace_base_t;
    '
))

manage_files_pattern($1, polaris_btrace_base_t, polaris_btrace_data_domain)
manage_lnk_files_pattern($1, polaris_btrace_base_t, polaris_btrace_data_domain)
allow $1 polaris_btrace_data_domain:file map;
# create temporary files in trace directory
manage_files_pattern($1, polaris_btrace_base_t, polaris_btrace_base_t)
manage_link_files_pattern($1, polaris_btrace_base_t, polaris_btrace_base_t)

# watch btrace data directory for changes
allow $1 polaris_btrace_base_t:dir watch;
')

###############################################################################
## <summary>
##      Manage btrace persistent files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_btrace_persistent_data_manage',`
  gen_require(
    type polaris_btrace_data_t;
  ')
  manage_dirs_pattern($1, polaris_btrace_data_t, polaris_btrace_data_t)
  manage_files_pattern($1, polaris_btrace_data_t, polaris_btrace_data_t)
')

###############################################################################
## <summary>
##      Read btrace persistent files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_btrace_persistent_data_read',`
  gen_require(
    type polaris_btrace_data_t;
  ')
  search_dirs_pattern($1, polaris_btrace_data_t, polaris_btrace_data_t)
  read_files_pattern($1, polaris_btrace_data_t, polaris_btrace_data_t)
')
### <summary>
### Search btrace persistent files
### </summary>
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
#
#interface('polaris_btrace_persistent_data_search',
  gen_require(' 
    type polaris_btrace_data_t;
  ')
  search_dirs_pattern($1, polaris_btrace_data_t, polaris_btrace_data_t)
')

### <summary>
### Search tracelogs directions in bootflash, harddisk or crashinfo directories
### </summary>
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
#
#interface('polaris_btrace_search_tracelogs',
  gen_require(' 
    type polaris_disk_harddisk_t;
    type polaris_disk_bootflash_t;
    type polaris_disk_crashinfo_t;
  ')
  search_dirs_pattern($1, polaris_disk_harddisk_t, polaris_btrace_data_t)
  search_dirs_pattern($1, polaris_disk_bootflash_t, polaris_btrace_data_t)
  search_dirs_pattern($1, polaris_disk_crashinfo_t, polaris_btrace_data_t)
')

### <summary>
### Manage btrace boot level config files
### </summary>
<param name="domain">
  <summary>
  Domain allowed access.
  </summary>
</param>

manage_dirs_pattern($1, polaris_btrace_lvl_config_t, polaris_btrace_lvl_config_t)
manage_files_pattern($1, polaris_btrace_lvl_config_t, polaris_btrace_lvl_config_t)
filetrans_pattern($1, polaris_btrace_data_t, polaris_btrace_lvl_config_t, dir, "level_config")

  polaris_btrace_search_tracelogs($1)

  polaris_disk_bootflash_read_lnk($1)
polaris_disk_harddisk_read_lnk($1)
polaris_disk_crashinfo_read_lnk($1)

read_files_pattern($1, polaris_ldb_tmp_t, polaris_ldb_tmp_t)
# Open Source Used In Petra/TRAX/Arthas RM

## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed access.
##	</summary>
## </param>
## <rolecap/>
#
interface('polaris_use_btrace_fifo',`
  gen_require(`
    type polaris_fifo_stdout_t;
  ')

  allow $1 polaris_fifo_stdout_t:fifo_file { rw_term_perms lock append create unlink getattr };"

# For pmanlite, allow pmans grand-children to be able to operate on
# pipe created by pman.
  polaris_use_pman_fifo($1)
')

#######################################
## <summary>
##	Execute create_luid_file_db in the its domain.
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed to transition.
##	</summary>
## </param>
#
interface('polaris_create_ldb_domtrans',`
  gen_require(`
    type polaris_create ldb_t, polaris_create ldb_exec_t;
  ')

  corecmd_search_bin($1)
    domtrans_pattern($1, polaris_create ldb_exec_t, polaris_create ldb_t)
')

#######################################
## <summary>
##	Make the specified type usable as btrace data file type.
## </summary>
## <param name="type">
##	<summary>
##	Type to be used for files.
##	</summary>
## </param>
#
interface('polaris_btrace_data_type',
    files_type($1)
    gen_require(
        attribute polaris_btrace_data_domain;
    )
    typeattribute $1 polaris_btrace_data_domain;
)

#######################################
## <summary>
##      Process to manage its own btrace files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <param name="file_type">
##      <summary>
##      File type of btrace that corresponds to given domain.
##      </summary>
## </param>
## <rolebase/>
#
interface('polaris_btrace_data_client',
    gen_require(
        type polaris_btrace_base_t;
    )
    manage_files_pattern($1, polaris_btrace_base_t, $2)
    manage_lnk_files_pattern($1, polaris_btrace_base_t, $2)
    filetrans_pattern($1, polaris_btrace_base_t, $2, { file lnk_file })

# all clients check for /tmp/rp/trace/publish/timed/enabled control
# file presence, created by btman, may need its own type
    gen_require(
        type polaris_btman_bt_t;
    )
    getattr_files_pattern($1, polaris_btrace_base_t, polaris_btman_bt_t)

    allow $1 $2:file map;
)

#######################################
## <summary>
##      Process to manage its own btrace files
## </summary>
### <param name="domain_stem">
###  <summary>
###   Steam of domain allowed access.
###  </summary>
### </param>

#

interface('polaris_btrace_data_client_template',
  gen_require(''
    attribute polaris_btrace_data_domain;
    type polaris_btrace_base_t;
    ')

type polaris_$1_bt_t;
polaris_btrace_data_type(polaris_$1_bt_t)

  polaris_btrace_data_client(polaris_$1_t, polaris_$1_bt_t)
  ')

#################################################################
### <summary>
###  Execute mcp_trace_request.sh in its domain.
### </summary>
### <param name="domain">
###  <summary>
###   Domain allowed to transition.
###  </summary>
### </param>

#

interface('polaris_trace_request_domtrans',
  gen_require(''
    type polaris_trace_request_t, polaris_trace_request_exec_t;
    ')
corecmd_search_bin($1)
domtrans_pattern($1, polaris_trace_request_exec_t, polaris_trace_request_t)
  ')

#################################################################
### <summary>
###   Watch btrace directories
### </summary>
### <param name="domain">
###  <summary>
###   Domain allowed access.
###  </summary>
### </param>
## <rolebase/>
#
interface('polaris_btrace_data_watch',
  gen_require(
    type polaris_btrace_base_t;
    type polaris_btrace_data_t;
  
  )
  allow $1 polaris_btrace_base_t:dir watch;
  allow $1 polaris_btrace_data_t:dir watch;
  
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbtrace.if
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polaristamsrp, 1.0);

gen_require(
  type polaris_tams_rp_t;
  
)
polaris_btrace_data_manage(polaris_tams_rp_t)
polaris_crft_data_manage(polaris_tams_rp_t)
polaris_chasfs_manage(polaris_tams_rp_t)
polaris_tdlresolve_read(polaris_tams_rp_t)
polaris_tdlldb_list_dirs(polaris_tams_rp_t)
polaris_flashlib_read(polaris_tams_rp_t)
polaris_cpld_read(polaris_tams_rp_t)
polaris_ripc_sman_ui_serv_connect(polaris_tams_rp_t)

# tams_tamc_tipc_listener_init function create tipc socket
allow polaris_tams_rp_t self:socket { bind create listen accept getattr read write };

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristamsrp.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
policy_module(polarisiomd, 1.0);

gen_require(
    type polaris_iomd_t;
')

polaris_btrace_data_manage(polaris_iomd_t)
polaris_crf_data_manage(polaris_iomd_t)
polaris_chasfs_manage(polaris_iomd_t)
polaris_tdlresolve_read(polaris_iomd_t)
polaris_tdlldb_list_dirs(polaris_iomd_t)
polaris_cpld_read(polaris_iomd_t)
polaris_flashlib_read(polaris_iomd_t)
polaris_ripc_sman_ui_serv_connect(polaris_iomd_t)
polaris_db_tdlldb_dir_use(polaris_iomd_t)
polaris_dyncfg_tmp_read(polaris_iomd_t)
optional_policy(
    polaris_spa_dev_use(polaris_iomd_t)
')

# allow objstore access
polaris_disk_objstore_read(polaris_iomd_t)
polaris_ngio_dev_use(polaris_iomd_t)

# deals with /dev/shm files semaphors; like uuid_sem semaphore
# created by btrace_get_uuid function
type polaris_iomd_tmpfs_t;
files_tmpfs_file(polaris_iomd_tmpfs_t)
fs_tmpfs_filetrans(polaris_iomd_t, polaris_iomd_tmpfs_t, file)
manage_files_pattern(polaris_iomd_t, tmpfs_t, polaris_iomd_tmpfs_t)
# sem_open through where_is_shmfs does stat on /dev/shm
fs_getattr_tmpfs(polaris_iomd_t)

#allow /dev/i2c device file
polaris_i2c_use(polaris_iomd_t)

ifdef(`ngwc_family',`
    # On Macallan platforms the following api call from iomd process,
    # ngmodslot_is_upper_sup_present() does a read access of /dev/cpld
    polaris_cpld_dev_read(polaris_iomd_t)
polaris_cpld_dev_use(polaris_iomd_t)

#allow cpp tmp file
polaris_cpp_tmp_files_use(polaris_iomd_t)

# In Macallan cards which use Doppler ASIC,
# IOMD module uses ngmod_doppler_mmap() api to get hold of
# MMapped Asic address. As part of the operation it uses
# /dev/chdrvmmmap device.
polaris_chdrvmmmap_dev_use(polaris_iomd_t)

# IOMD module invokes ASIC Scan functionality
# and calls asic_register_intr_handler() , which
# needs to access the doppler MSI devices
# /dev/msi/Slot[0-9]*/Doppler[0-9]/Group[0-9]
polaris_dplr_dev_use(polaris_iomd_t)
# but above still not enough at some point
# device like /dev/msi/Slot8/Doppler0/Group0 still
# considered as device_t, not clear need to look a bit more
dev_rw_generic_chr_files(polaris_iomd_t)

# on macallan iomd needs access to /dev/cisco/dplr_iomem
# for mapping dplr io memory to application space.
polaris_dplr_iomem_mmapdrv_dev_use(polaris_iomd_t);

# IOMD calls ngmod_obfl_errmsg_app_init() to initialize
# OBFL.
polaris_obfl_data_manage(polaris_iomd_t)

# IOMD fast path code invokes ngmod_fastpath_thread_func(),
# which increases the scheduler priority.
allow polaris_iomd_t self:capability sys_nice;
allow polaris_iomd_t self:process setsched;

# on macallan iomd needs access to /dev/cisco/fpga_iomem
# for mapping FPGA io memory to application space.
polaris_fpga_iomem_mmapfpga_dev_use(polaris_iomd_t);

optional_policy(
  # ASIC related mmap code in IOMD needs to acces PCI scan related
  # rescansh mutex
  polaris_cm_cc_tmpfs_manage(polaris_iomd_t)
)

# both utah and macallan text relocations in libcpp_common_os.so
ifdef("crankshaft_family",
polaris_icc_broken_relocations(polaris_iomd_t)
# Nightwatch switch module needs to access the doppler devices
polaris_dplr_dev_use(polaris_iomd_t)
dev_rw_generic_chr_files(polaris_iomd_t)
allow polaris_iomd_t self:capability sys_nice;
allow polaris_iomd_t self:process setsched;
"

optional_policy(
# Allow /dev/dmammap access
polaris_dmammap_dev_use(polaris_iomd_t)
"

optional_policy(
# on starfleet access gettysburg_fpga
polaris_gettysburg_fpga_dev_use(polaris_iomd_t)
"

type polaris_iomd_tmp_t;
files_tmp_file(polaris_iomd_tmp_t)
manage_dirs_pattern(polaris_iomd_t, polaris_iomd_tmp_t, polaris_iomd_tmp_t)
manage_files_pattern(polaris_iomd_t, polaris_iomd_tmp_t, polaris_iomd_tmp_t)
manage_fifo_files_pattern(polaris_iomd_t, polaris_iomd_tmp_t, polaris_iomd_tmp_t)

# on macallan MRVL88X5113_DRV_PRINT macro outputs into /tmp/mrvl88x5113.log file
files_tmp_filetrans(polaris_iomd_t, polaris_iomd_tmp_t, file, "mrvl88x5113.log")

logging_send_syslog_msg(polaris_iomd_t)

ifdef(`ngwc_family',`
# from in115050_test_app_thread_create in
# drivers/userspace/inphi/dev_ephy_in115050/src/dev_ephy_in115050.c
# For macallan in115025_test_app_thread_create in
# drivers/userspace/inphi/dev_ephy_in115025/src/dev_ephy_in115025.c
files_tmp_filetrans(polaris_iomd_t, polaris_iomd_tmp_t, dir, "test_inphi")

# In case of starfleet fixed the following module creates folder in /tmp
#/drivers/userspace/mrvl_phy/dev_ephy_mrvl88ec808/src/dev_ephy_m88ec808.c
files_tmp_filetrans(polaris_iomd_t, polaris_iomd_tmp_t, dir, "test_mrvlphy")

#allow access to /tmp/serdes_asic_key_dir as this path is used both by
#cman_fp for programming DPP serdes and IOMD for programming n/w serdes
optional_policy(
polaris_serdes_asic_key_tmp_manage(polaris_iomd_t)
"

# Doppler E mac creates lockfiles with names following
# the pattern /tmp/nug_asic_key_dir/nug_asic_key_[0-9]_[0-9]_[0-9]
files_tmp_filetrans(polaris_iomd_t, polaris_iomd_tmp_t, dir, "nug_asic_key_dir")
# Doppler ES mac creates lock files with names following
# the pattern /tmp/rmtasic_key_dir/rmtasic_key_[0-9][0-9][0-9]
files_tmp_filetrans(polaris_iomd_t, polaris_iomd_tmp_t, dir, "rmtasic_key_dir")

# from etopus_spawn_serdes_tool_thread in
# binos/platforms/ngwc/doppler_sdk/drivers/serdes/Vend or/src/etopus_ser des.c
files_tmp_filetrans(polaris_iomd_t, polaris_iomd_tmp_t, dir, "test_etp")

# on starfleet access /dev/cpld, in iomd_starfleet_create_mmap()
polaris_cpld_dev_use(polaris_iomd_t)
'

optional_policy(
polaris_ngwc_itfpo_manage(polaris_iomd_t)
')

# ngio device
type polaris_ngio_device_t;
dev_node(polaris_ngio_device_t)

# For NGIO modules iomd uses netlink socket (via backplane switch)
allow polaris_iomd_t self:netlink_socket { bind create };

ifdef(`sumatra_platform',
# on Sumatra access /dev/cpld from iomd
polaris_cpld_dev_use(polaris_iomd_t)
# LOOK AT ME: After direct usage of /dev/mem is removed (CSCvw80796)
polaris_dev_mem_use(polaris_iomd_t)
polaris_sumatra_doppler_dev_use(polaris_iomd_t)

# access SERDES /tmp/serdesasic_key_dir/*
polaris_serdesasic_key_tmp_manage(polaris_iomd_t)

# access /dev/huron_fpga
polaris_huron_dev_use(polaris_iomd_t)

# manage "sysctrl_i2c.lck"
gen_require(
    type polaris_cm_rp_tmp_t;
)
files_tmp_filetrans(polaris_iomd_t, polaris_cm_rp_tmp_t, file, "sysctrl_i2c.lck")
polaris_cm_rp_tmp_manage(polaris_iomd_t)

# comm="iomd" kmod="netdev-bp246"
kern el_request_load_module(polaris_iomd_t)

# work with /sys/devices/i2c-15/15-0076/...
dev_rw_sysfs(polaris_iomd_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisimd.te
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define('polaris_lipc_service_server_many',
  `ifelse($3, 0, `polaris_lipc_create_name(dollarsone, $1, "$2")', `polaris_lipc_service_server_many($1, $2, eval($3 - 1))')
``)

define('polaris_lipc_service_server_aux','dnl
  """
  ## Create $2 lipc chanell.
  ##
  ## Domain allowed access.
  ##
  #
  interface(`polaris_lipc_$1_create_name";``
gen_require(`
      type $2;
    )
    $3
  `)

  """
``

#
```
## <param name="server">
##    <summary>
##    Domain of owner of lipc channel.
##    </summary>
## </param>
## <infoflow type="none"/>
#
interface(``polaris_lipc_$1_write'',
    gen_require(`
        type $2;
    ')
    polaris_lipc_write(dollarsone, $2, dollarstwo)
    ')

define(`polaris_lipc_service_server',
    dnl polaris_lipc_service_server_aux(lipc_stem($1), lipc_label($1),
        polaris_lipc_service_server_many(lipc_label($1), $5, max_scope_map($3, $4, $2)))')

define(`polaris_lipc_service_client',
    ')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_lipc_if.m4
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisncd, 1.0);

    gen_require(`
        type polaris_ncd_t;
    ')

    # allow sntp transition in its own domain when started by ncd
    ntp_domtrans_ntpdate(polaris_ncd_t)

    corecmd_exec_bin(polaris_ncd_t)
    corecmd_exec_shell(polaris_ncd_t)

    # run ldd, which in turns execve "ld.so --verify"
    libs_exec_ld_so(polaris_ncd_t)
```
# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_ncd_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_ncd_t)

# work with /tmp files (/tmp/ncd)
type polaris_ncd_tmp_t;
files_tmp_file(polaris_ncd_tmp_t)
manage_dirs_pattern(polaris_ncd_t, tmp_t, polaris_ncd_tmp_t)
manage_files_pattern(polaris_ncd_t, tmp_t, polaris_ncd_tmp_t)
manage_fifo_files_pattern(polaris_ncd_t, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
files_tmp_filetrans(polaris_ncd_t, polaris_ncd_tmp_t, file)

# create /tmp/ncd and /tmp/etc/ncd_work_dir directories
gen_require(' type polaris_etc_t;
')
manage_dirs_pattern(polaris_ncd_t, { tmp_t polaris_etc_t }, polaris_ncd_tmp_t)
files_tmp_filetrans(polaris_ncd_t, polaris_ncd_tmp_t, dir, "ncd")
# /tmp/etc/ncd_work_dir
filetrans_pattern(polaris_ncd_t, polaris_etc_t, polaris_ncd_tmp_t, dir, "ncd_work_dir")

# work with /tmp/ncd/inot_fifo
files_tmp_filetrans(polaris_ncd_t, polaris_ncd_tmp_t, fifo_file, "inot_fifo")
manage_fifo_files_pattern(polaris_ncd_t, tmp_t, polaris_ncd_tmp_t)

# allow sntp to read out fifo file
gen_require(' type ntpd_t;
')
read_fifo_files_pattern(ntpd_t, polaris_ncd_tmp_t, polaris_ncd_tmp_t)

# work with /tmp/ufs directory. the ufs directory can be created
# by both polaris_ncd_t and udev_t subjects (depending upon platform
# logic)
gen_require(' type udev_t;
  type unconfined_service_t;
')
files_tmp_filetrans( { polaris_ncd_t udev_t unconfined_service_t }, polaris_ncd_tmp_t, dir, "ufs")

polaris_btrace_data_manage(polaris_ncd_t)
polaris_chasfs_manage(polaris_ncd_t)
polaris_cpld_read(polaris_ncd_t)
polaris_proc_rmonbifo_read(polaris_ncd_t)
polaris_rmonbifo_tmp_read(polaris_ncd_t)
polaris_boot_tmp_read(polaris_ncd_t)
polaris_disk_crashinfo_getattr(polaris_ncd_t)
polaris_disk_bootflash_read_lnk(polaris_ncd_t)
polaris_flashlib_lock(polaris_ncd_t)
polaris_flashlib_read(polaris_ncd_t)
polaris_read_debug_conf(polaris_ncd_t)
polaris_read_packages_conf(polaris_ncd_t)

brctl_domtrans(polaris_ncd_t)
sysnet_domtrans_ifconfig(polaris_ncd_t)

# ncd.sh invokes ifup which in turn is calling dhclient
sysnet_domtrans_dhcpc(polaris_ncd_t)

type polaris_ncd_etc_t;
files_config_file(polaris_ncd_etc_t)
gen_require(`
    attribute domain;
')
files_etc_filetrans(domain, polaris_ncd_etc_t, file, "mount_data")
manage_dirs_pattern(polaris_ncd_t, polaris_ncd_etc_t, polaris_ncd_etc_t)
manage_files_pattern(polaris_ncd_t, polaris_ncd_etc_t, polaris_ncd_etc_t)

# runs exportsfs command
rpc_read_exports(polaris_ncd_t)
rpc_write_exports(polaris_ncd_t)
rpc_manage_nfs_state_data_dir(polaris_ncd_t)
rpc_manage_nfs_state_data(polaris_ncd_t)
fs_rw_nfsd_fs(polaris_ncd_t)
kernrlw_rpc_sysctls(polaris_ncd_t)
fs_getattr_xattr_fs(polaris_ncd_t)

# reloads xinetd@/tmp/etc/xinetd.conf.consolidated.service and
# systemctl reload xinetd_brelay@eobc.service
systemd_exec_systemctl(polaris_ncd_t)
systemd_reload_all_services(polaris_ncd_t)
systemd_status_all_unit_files(polaris_ncd_t)
polaris_chvrf_domtrans(polaris_ncd_t)
# ncd process calls ifconfig and route and mcp_chvrf
gen_require(`
    type polaris_chvrf_t;
')
sysnet_domtrans_ifconfig(polaris_chvrf_t)
allow polaris_chvrf_t self:capability net_admin;
allow polaris_chvrf_t self:udp_socket { create ioctl };
allow polaris_ncd_t self:process setpgid;
polaris_persistent_getattr(polaris_ncd_t)
# access to /etc/sysconfig/network-scripts
sysnet_read_config(polaris_ncd_t)

fs_getattr_tmpfs(polaris_ncd_t)

# manage file under /tmp/etc/ncd_work_dir
gen_require(
    type initrc_tmp_t;
type initrc_t;
)
filetrans_pattern(polaris_ncd_t, initrc_tmp_t, polaris_ncd_tmp_t, dir,"ncd_work_dir")
polaris_ncd_tmp_manage(polaris_ncd_t)
# /tmp/root/loopback is created by initrc_t but managed by ncd.sh.
# dynamic label directory "/tmp/root/loopback" as polaris_ncd_tmp_t
files_tmp_filetrans(initrc_t, polaris_ncd_tmp_t, dir, "loopback")
# flashutil has wrong file permission
allow polaris_ncd_t self:capability { dac_override sys_resource };

# access to /tmp/etc/xinetd.conf.consolidated
init_read_script_tmp_files(polaris_ncd_t)

allow polaris_ncd_t self:capability net_admin;

# search/getattr of /tmp/udev/etc/udev
polaris_udev_tmp_list_dirs(polaris_ncd_t)

# ncd calls mount to handle nfs directories
mount_domtrans(polaris_ncd_t)

#rsync_exec(polaris_ncd_t)
gen_require(
    type rsync_t;
    type rsync_tmp_t;
)
rsync_entry_domtrans(polaris_ncd_t, rsync_t)
allow rsync_t polaris_ncd_t:process sigchld;
# file descriptor leak when rsync is called
allow rsync_t polaris_ncd_t:fifo_file write;
# PLEASE LOOK AT ME: probably /tmp/rp/active_epoch deserves its own type
# /tmp/rp/active_epoch on its way to /tmp/chassis/local/rp/chasfs/rp/0/0/epoch
manage_files_pattern(polaris_ncd_t, rsync_tmp_t, rsync_tmp_t)

# creates files under /tmp/udev/etc/udev/
polaris_udev_tmp_manage(polaris_ncd_t)
allow polaris_ncd_t self:process setfscreate;

# run /sbin/hwclock in its own domain
clock_domtrans(polaris_ncd_t)
# stdin file descriptor leak when hwclock started
gen_require('type hwclock_t;
')
allow hwclock_t polaris_ncd_tmp_t:fifo_file read;

ifdef('ngwc_family',
polaris_getattr_filesystem_disk_ucode(polaris_ncd_t)
')

# update /tmp/etc/xinetd.conf.consolidated file
polaris_etc_append(polaris_ncd_t)

# ncd.sh adds entries to /etc/exports file
gen_require('type etc_t;
')
append_files_pattern(polaris_ncd_t, etc_t, etc_t)

# create and write into /tmp/unifiedfs/unifiedfs_log
manage_files_pattern(polaris_ncd_t, polaris_ufs_tmp_t, polaris_ufs_tmp_t)
polaris_ncd_rpcinfo_net(polaris_ncd_t)

# accessing /mnt/usb0
fs_search_removable(polaris_ncd_t)
polaris_getattr_removable(polaris_ncd_t)
polaris_getattr_removable(polaris_ufs_helper_t)

# ncd.sh calls ps command
# ps needs access to /sys/devices/system/cpu/online
# write/create to "/sys/module/nfs/parameters/nfs4_unique_id"
develops(polaris_ncd_t)
develop_sysfs_dirs(polaris_ncd_t)
gen_require('type sysfs_t;
')
create_files_pattern(polaris_ncd_t, sysfs_t, sysfs_t)

# ps needs access to proc_t
kernel_read_system_state(polaris_ncd_t)
# ps needs access to state of all domains
domain_read_all_domains_state(polaris_ncd_t)

# send signal to ntpd
ntp_signal(polaris_ncd_t)
# ncd.sh executes hostname
hostname_exec(polaris_ncd_t)

# ncd.sh runs mcp_trace_request.sh
polaris_trace_request_domtrans(polaris_ncd_t)

# handling /usr/bin/os/conf/osd_console_attach.sh
polaris_utility_domain_template(console_attach)
polaris_bexecute_domain(polaris_console_attach_t, polaris_console_attach_exec_t)
corecmd_exec_bin(polaris_console_attach_t)
auth_use_nsswitch(polaris_console_attach_t)

# execute ping over liin: /usr/bin/os/conf/mcp_chvrf.sh liin /bin/ping -c 1 -w 300 192.168.1.6
polaris_chvrf_domtrans(polaris_console_attach_t)
# from chvrf.sh code executes ping command
gen_require('type polaris_chvrf_t;')
netutils_domtrans_ping(polaris_chvrf_t)
# send sigchld when it is done
gen_require('type ping_t;')
allow ping_t polaris_console_attach_t:process sigchld;
polaris_boot_tmp_read(polaris_console_attach_t)
polaris_btrace_data_manage(polaris_console_attach_t)
polaris_chasfs_read(polaris_console_attach_t)
polaris_cpld_read(polaris_console_attach_t)
polaris_disk_bootflash_search(polaris_console_attach_t)
polaris_disk_crashinfo_getattr(polaris_console_attach_t)
polaris_ncd_tmp_read(polaris_console_attach_t)
polaris_read_debug_conf(polaris_console_attach_t)
polaris_rmonbifo_tmp_read(polaris_console_attach_t)
polaris_use_btrace_fifo(polaris_console_attach_t)

# read /proc/cmdline
kernel_read_system_state(polaris_console_attach_t)

# read /tmp/myhostname file
polaris_hm_tmp_read(polaris_console_attach_t)
telnet_use_ptys(polaris_console_attach_t)

allow polaris_console_attach_t self:capability sys_resource;
allow polaris_console_attach_t self:process setrlimit;

# getty starts /usr/binos/conf/iosd_console_attach.sh through brelay
gen_require(
    type getty_t;
)
polaris_bconsole_domtrans(getty_t)

# console_attach.sh start btelnet.sh over chvrf and bexecute
gen_require(
    type polaris_bexecute_t;
)
allow polaris_bexecute_t polaris_console_attach_t:process sigchld;
corenent_tcp_connect_telnetd_port(polaris_bexecute_t)

# handling /usr/binos/conf/unifiedfs/unifiedfs_helper.sh
polaris_utility_domain_template(ufs_helper)
corecmd_exec_bin(polaris_ufs_helper_t)
auth_use_nsswitch(polaris_ufs_helper_t)

# rsync calls unifiedfs_helper.sh
gen_require(
    type rsync_t;
)
polaris_ufs_helper_domtrans(rsync_t);

# unifiedfs_helper.sh calls mount to handle nfs directories
mount_domtrans(polaris_ufs_helper_t)

# creates files under /tmp/udev/etc/udev/
polaris_udev_tmp_manage(polaris_ufs_helper_t)
polaris_disk_bootflash_search(polaris_ufs_helper_t)
polaris_ncd_tmp_manage(polaris_ufs_helper_t)
polaris_ncd_etc_read(polaris_ufs_helper_t)

# stat over /tmp/ufs/crashinfo/10.1.1.1
polaris_disk_crasfinfo_getattr(polaris_ufs_helper_t)

# unifiedfs_helper.sh creates /tmp/unifiedfs and manages underlying dirs
type polaris_ufs_tmp_t;
files_tmp_file(polaris_ufs_tmp_t)
files_tmp_filetrans(polaris_ufs_helper_t, polaris_ufs_tmp_t, { file dir })
manage_dirs_pattern(polaris_ufs_helper_t, polaris_ufs_tmp_t, polaris_ufs_tmp_t)
manage_files_pattern(polaris_ufs_helper_t, polaris_ufs_tmp_t, polaris_ufs_tmp_t)
manage_lnk_files_pattern(polaris_ufs_helper_t, polaris_ufs_tmp_t, polaris_ufs_tmp_t)
# Required for /tmp/unifiedfs access on vWLC
ifdef(`vwlc_platform',
 files_tmp_filetrans(unconfined_service_t, polaris_ufs_tmp_t, dir, "unifiedfs")
')

polaris_ncd_rpcinfo_net(polaris_ufs_helper_t)

polaris_persistent_getattr(polaris_ufs_helper_t)

# rm from coreutils-8.30 wants to know filesystem type
fs_getattr_tmpfs(polaris_ufs_helper_t)

# ncd.sh read,search,open, creates, add_name and writes to /proc/hanet/tun_local_ip
gen_require('
 type polaris_hanet_proc_t;
 type proc_t;
')
manage_files_pattern(polaris_ncd_t, polaris_hanet_proc_t, polaris_hanet_proc_t)
allow polaris_hanet_proc_t proc_t:filesystem associate;
allow polaris_ufs_helper_t self:capability sys_resource;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisncd.te
No license file was found, but licenses were detected in source scan.

dnl
dnl May 2018, Manohar Hungund
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl Starfleet Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 5)
max_bay_map_set(`fp', `per_bay', 5)

min_bay_ripc_map_set(`rp', `per_bay', 0)
min_bay_ripc_map_set(`cc', `per_bay', 1)
min_bay_ripc_map_set(`fp', `per_bay', 0)

max_bay_ripc_map_set(`rp', `per_bay', 2)
max_bay_ripc_map_set(`cc', `per_bay', 6)
max_bay_ripc_map_set(`fp', `per_bay', 1)

min_bay_ripc_map_set(`rp', `global', 0)
min_bay_ripc_map_set(`cc', `global', 1)
min_bay_ripc_map_set('fp', 'global', 0)

max_bay_ripc_map_set('rp', 'global', 2)
max_bay_ripc_map_set('cc', 'global', 6)
max_bay_ripc_map_set('fp', 'global', 1)

dnl in elastic scope each process has its own value
max_elastic_map_set('rp', 'elastic', BPROC_ODM, 0)
max_elastic_map_set('cc', 'elastic', BPROC_ODM, 0)
max_elastic_map_set('fp', 'elastic', BPROC_ODM, 0)

max_elastic_map_set('rp', 'elastic', BPROC_WNCD, 0)
max_elastic_map_set('cc', 'elastic', BPROC_WNCD, 0)
max_elastic_map_set('fp', 'elastic', BPROC_WNCD, 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/starfleetmaps.m4
No license file was found, but licenses were detected in source scan.

#
# November 2020, Christine Hwang
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

# Map BBU TTY to correct device context
/dev/ttyS2 -c gen_context(system_u:object_r:polaris_bbu_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbbu.fc
No license file was found, but licenses were detected in source scan.

#
# February 2018, Manohar Hungund
#
# Copyright (c) 2018-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris ACT2 Chip Device Access Policy Rules.</summary>

###############################################################################
# ACT2 Chip Driver policy
###############################################################################

###############################################################################
## <summary>
## Work (read, write, ioctl) with /dev/act2

### <param name="domain">

### <summary>

### </summary>

### <param>

```
interface('polaris_act2_dev_use',
    gen_require('`
        type device_t;
        type polaris_act2_device_t;
    ')
    read_chr_files_pattern($1, device_t, polaris_act2_device_t)
    write_chr_files_pattern($1, device_t, polaris_act2_device_t)
')
```

### <summary>

### Create /tmp/hw_entropy file. Certain platforms save

### entropy from main board ACT-2 chip in this file.

### </summary>

### <param name="domain">

### <summary>

### </summary>

### <param>

```
interface('polaris_hw_entropy_create',
    gen_require('`
        type polaris_hw_entropy_t;
        type tmp_t;
    ')
    files_tmp_filetrans($1, polaris_hw_entropy_t, file, "hw_entropy")
    manage_files_pattern($1, tmp_t, polaris_hw_entropy_t)
')
```

### Use /tmp/hw_entropy file. For some reason, iosd opens file in rw mode,

### not clear why it couldn't just read it.

### Certain platforms save entropy from main board ACT-2 chip in this file.

### </summary>

### <param name="domain">

### <summary>

### </summary>
interface('polaris_hw_entropy_use',
    gen_require(
        type polaris_hw_entropy_t;
        type tmp_t;
    )
)

    rw_files_pattern($1, tmp_t, polaris_hw_entropy_t)
)

interface('polaris_hw_entropy_read',
    gen_require(
        type polaris_hw_entropy_t;
    )
)

    read_files_pattern($1, tmp_t, polaris_hw_entropy_t)
)

Policy_module(polaris_dmindbmand, 1.0);

    gen_require(
        type polaris_dmi_ndbmand_t;
    )

    polaris_btrace_data_manage(polaris_dmi_ndbmand_t)
polaris_crft_data_manage(polaris_dmi_ndbmand_t)
polaris_chasfs_manage(polaris_dmi_ndbmand_t)
polaris_tdlresolve_read(polaris_dmi_ndbmand_t)
polaris_tdlldb_list_dirs(polaris_dmi_ndbmand_t)
polaris_cpld_read(polaris_dmi_ndbmand_t)
polaris_flashlib_read(polaris_dmi_ndbmand_t)

polaris_ripc_sman_ui_serv_connect(polaris_dmi_ndbmand_t)

polaris_db_tdlldb_dir_use(polaris_dmi_ndbmand_t)

# work with NDBLOAD_LOCK_PATH
type polaris_dmi_ndbutil_lock_t;
files_tmp_file(polaris_dmi_ndbutil_lock_t)
polaris_ndbload_lock_use(polaris_dmi_ndbmand_t)

optional_policy(
  # deals with /dev/shm/confd setup (schema and pid)
polaris_confd_shm_setup(polaris_dmi_ndbmand_t)
  # and allow read shared schema
polaris_confd_shared_schema_read(polaris_dmi_ndbmand_t)
  # read /proc/confd_pid/exe file
polaris_confd_read(polaris_dmi_ndbmand_t)
)

allow polaris_dmi_ndbmand_t self:capability { dac_override dac_read_search sys_resource };

logging_send_syslog_msg(polaris_dmi_ndbmand_t)

# create ndbutil directory under /var/lock
polaris_confd_ndbutil_create(polaris_dmi_ndbmand_t)

polaris_ndbutil_lock_template(polaris_dmi_ndbmand_t, ndbmand, ".l.schema_use.ndbmand")
polaris_confd_shared_schema_watch(polaris_dmi_ndbmand_t)

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmindbmand.te
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisomp, 1.0);
gen_require(
    type polaris_omp_t;
)
polaris_chasfs_manage(polaris_omp_t)
polaris_cpld_read(polaris_omp_t)
polaris_flashlib_read(polaris_omp_t)
polaris_tdlresolve_read(polaris_omp_t)
polaris_ripc_sman_ui_serv_connect(polaris_omp_t)
polaris_db_tdlldb_dir_use(polaris_omp_t)
logging_send_syslog_msg(polaris_omp_t)
# vconfd_load_shared_schemas
polaris_confd_shared_schema_read(polaris_omp_t)
# omp_daemon_init calls posix_sysconf
dev_read_sysfs(polaris_omp_t)
# reads /sys/fs/cgroup/iosxe_control_processes/cpuset.cpus
fs_read_cgroup_files(polaris_omp_t)
# vip_util_set_fd_limits set files limits
allow polaris_omp_t self:process setrlimit;

# omp connects to omp listener tcp port 17900
corenet_tcp_connect_polaris_omp_port(polaris_omp_t)
# vip_util_reset_ns opens /proc/1/ns/net
polaris_cedge_reset_ns(polaris_omp_t)
# vip_util_set_ns opens /var/run/netns/*
polaris_cedge_set_ns(polaris_omp_t)

#omp_peer_active_connect() binds to OMP address
corenet_tcp_bind_generic_node(polaris_omp_t)
allow polaris_omp_t self:tcp_socket { bind connect create getopt setopt };

# omp starts worker thread under CPU affinity
allow polaris_omp_t self:process setsched;

# connects to ttm unix domain socket in msgq_connect_timer
polaris_ttm_var_sock_write(polaris_omp_t)
# connects to ftm unix domain socket in msgq_connect_timer
polaris_ftm_var_sock_write(polaris_omp_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisomp.te
No license file was found, but licenses were detected in source scan.

# July 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris htx Policy Rules.</summary>

### <summary>Manage polaris_htx_iox_tmp_t in /tmp/HTX-IOX.</summary>

### <param name="domain">

### Domain allowed access.

## <summary>

### interface('polaris_htx_iox_tmp_manage',`

```c
    gen_require(`
    type polaris_htx_iox_tmp_t;

    `)
```

manage_files_pattern($1, polaris_htx_iox_tmp_t, polaris_htx_iox_tmp_t)
manage_sock_files_pattern($1, polaris_htx_iox_tmp_t, polaris_htx_iox_tmp_t)
manage_dirs_pattern($1, polaris_htx_iox_tmp_t, polaris_htx_iox_tmp_t)

allow $1 polaris_htx_iox_tmp_t:dir watch;

allow $1 polaris_htx_iox_tmp_t:file map;
```

### Send messages to htx unix datagram sockets.

### <param name="domain">

### Domain allowed access.

## Send messages to htx unix datagram sockets.

## <summary>

### interface('polaris_htx_dgram_send',`

```c
    gen_require(`
    type polaris_htx_t;

    `)
```


allow $1 polaris_h tx_t:unix_dgram_socket sendto;
')

######################################
## <summary>
## Work (read, write, ioctl) with /dev/sppi_memif device
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## </param>
#
interface('polaris_sppi_memif_dev_use',
    gen_require(
        type device_t;
        type polaris_sppi_memif_device_t;
    )
    write_chr_files_pattern($1, device_t, polaris_sppi_memif_device_t)
    read_chr_files_pattern($1, device_t, polaris_sppi_memif_device_t)
)

#######################################
## <summary>
## Work with /tmp/HTX-IOX/
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## </param>
#
interface('polaris_h tx_use_client_socket',
    gen_require(
        type polaris_h tx_t;
    )
    allow $1 polaris_h tx_t:unix_stream_socket connectto;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarishtx.if
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
policy_module(polarisesgtamcfg, 1.0);

gen_require(
    type polaris_esg_tam_cfg_t;
')

polaris_btrace_data_manage(polaris_esg_tam_cfg_t)
polaris_chasfs_manage(polaris_esg_tam_cfg_t)
polaris_tdlresolve_read(polaris_esg_tam_cfg_t)
polaris_tdlldb_list_dirs(polaris_esg_tam_cfg_t)
polaris_flashlib_read(polaris_esg_tam_cfg_t)

polaris_cpld_read(polaris_esg_tam_cfg_t)
allow polaris_esg_tam_cfg_t self:capability net_admin;

# handle /tmp/tam_cfg_done
type polaris_tam_tmp_t;
files_tmp_file(polaris_tam_tmp_t)
files_tmp_filetrans(polaris_esg_tam_cfg_t, polaris_tam_tmp_t, dir, "tam_cfg_done")
manage_files_pattern(polaris_esg_tam_cfg_t, polaris_tam_tmp_t, polaris_tam_tmp_t)
gen_require(
    type tmp_t;
')
manage_dirs_pattern(polaris_esg_tam_cfg_t, tmp_t, polaris_tam_tmp_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisesgtamcfg.te
No license file was found, but licenses were detected in source scan.

policy_module(polarisfmanfp, 1.0);

gen_require(
    type polaris_fman_fp_t;
')
polaris_btrace_data_manage(polaris_fman_fp_t)
polaris_crft_data_manage(polaris_fman_fp_t)
polaris_chasfs_manage(polaris_fman_fp_t)
polaris_tdlresolve_read(polaris_fman_fp_t)
polaris_tlddb_list_dirs(polaris_fman_fp_t)
polaris_cpld_read(polaris_fman_fp_t)
polaris_lua_read(polaris_fman_fp_t)
polaris_flashlib_read(polaris_fman_fp_t)

polaris_ripc_sman_ui_serv_connect(polaris_fman_fp_t)

# allow to send message to /dev/log
logging_send.Syslog_msg(polaris_fman_fp_t)

# mqipc manual, one that missing in platform tdl file

# mq.-iosd-thr-fmanrp-R0:0
# mq.-iosd-thr-fmanrp-1:R0:0
type polaris_iosd_thr_fmanrp_mqipc_t;
polaris_mqipc_type(polaris_iosd_thr_fmanrp_mqipc_t)

# mq.-mobilityd-thr-fmanrp-1:R0:0
type polaris_mobilityd_thr_fmanrp_mqipc_t;
polaris_mqipc_type(polaris_mobilityd_thr_fmanrp_mqipc_t)

# mq.-smd-thr-fmanrp-1:R0:0
type polaris_smd_thr_fmanrp_mqipc_t;
polaris_mqipc_type(polaris_smd_thr_fmanrp_mqipc_t)

# mq.-wncd_0-thr-fmanrp-1:R0:0
type polaris_wncd_thr_fmanrp_mqipc_t;
polaris_mqipc_type(polaris_wncd_thr_fmanrp_mqipc_t)

# mq.-wncmdrd_0-thr-fmanrp-1:R0:0
type polaris_wncmdrd_thr_fmanrp_mqipc_t;
polaris_mqipc_type(polaris_wncmdrd_thr_fmanrp_mqipc_t)

polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-1:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-2:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-3:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-4:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-5:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-6:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-7:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-8:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-R1:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-1:R1:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_iosd_thr_fmanrp_mqipc_t, iosd-thr-fmanrp-2:R1:0)
4:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncmgrd_thr_fmanrp_mqipc_t, wncmgrd-thr-fmanrp-5:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncmgrd_thr_fmanrp_mqipc_t, wncmgrd-thr-fmanrp-6:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncmgrd_thr_fmanrp_mqipc_t, wncmgrd-thr-fmanrp-7:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncmgrd_thr_fmanrp_mqipc_t, wncmgrd-thr-fmanrp-8:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncmgrd_thr_fmanrp_mqipc_t, wncmgrd-thr-fmanrp-R1:0)

polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-1:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-2:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-3:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-4:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-5:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-6:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-7:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-8:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_0-thr-fmanrp-R1:0)

polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_1-thr-fmanrp-R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_1-thr-fmanrp-1:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_1-thr-fmanrp-2:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_2-thr-fmanrp-1:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_2-thr-fmanrp-2:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_3-thr-fmanrp-1:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_3-thr-fmanrp-2:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_4-thr-fmanrp-1:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_4-thr-fmanrp-2:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_5-thr-fmanrp-1:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_5-thr-fmanrp-2:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_6-thr-fmanrp-1:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_6-thr-fmanrp-2:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_7-thr-fmanrp-1:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_7-thr-fmanrp-2:R0:0)
polaris_mqipc_create_name(polaris_fman_fp_t, polaris_wncd_thr_fmanrp_mqipc_t, wncd_1-thr-fmanrp-R1:0)
)
polaris_cpld_dev_use(polaris_fman_fp_t)

# cpp bleeds into switching platforms through fman_fp and fed
# apparently even on nyquist fed creates /tmp/cpp_anon_db
polaris_cpp_process(polaris_fman_fp_t)
polaris_cpp_tmp_files_use(polaris_fman_fp_t)
optional_policy('polaris_cpp_dev_use(polaris_fman_fp_t)
polaris_cpp_cavium_sdk_ipc_use(polaris_fman_fp_t)
')
polaris_persistent_manage(polaris_fman_fp_t)
polaris_icc_broken_relocations(polaris_fman_fp_t)

allow polaris_fman_fp_t self:capability dac_override;
allow polaris_fman_fp_t self:capability2 block_suspend;

# when /bootflash or /harddisk are 100% full
allow polaris_fman_fp_t self:capability sys_resource;

# write to devices like this /proc/bus/pci/04/00.0
kernel_read_system_state(polaris_fman_fp_t)
kernel_write_proc_files(polaris_fman_fp_t)

ifeq(`mcp_family',`
  polaris_cm_fp_tmp_filetrans(polaris_fman_fp_t)
polaris_cm_fp_tmp_manage(polaris_fman_fp_t)
')

# LOOK AT ME: raw memory write access
ifeq(`mcp_family',`
  polaris_dev_mem_use(polaris_fman_fp_t)
')

# LOOK AT ME: raw memory access in cavium vendor SDK
# related to octeon driver (BUG CSCvh58515)
ifeq(`crankshaft_family',`
  polaris_dev_mem_use(polaris_fman_fp_t)
')
polaris_dyncfg_tmp_read(polaris_fman_fp_t)

# /dev/qae_mem device access on overlord
optional_policy('polaris_qae_dev_use(polaris_fman_fp_t)
')

# access to /dev/icp_XXX device on crankshaft platforms
optional_policy('polaris_icp_dev_use(polaris_fman_fp_t)
')

# on qwlc work with /tmp/octeon-remote-lock-pci:0
ifeq(`qwlc_platform',`
polaris_cm_fp_tmp_manage(polaris_fman_fp_t)
')

ifdef(`katar_platform',
polaris_cm_fp_tmp_manage(polaris_fman_fp_t)
')

optional_policy(
#fman-fp creates tmp files in acl-mgmt workflow.
polaris_fman_acl_iptbl_tmp_file(polaris_fman_fp_t)
')

polaris_iosd_vcpu_read(polaris_fman_fp_t)

# allow open/read/search cgroup files like /sys/fs/cgroup/cpu,cpuacct/machine
fs_read_cgroup_files(polaris_fman_fp_t)
fs_search_cgroup_dirs(polaris_fman_fp_t)

optional_policy(
# Access /dev/cbdma
polaris_cbdma_dev_use(polaris_fman_fp_t)

# Access /dev/n2_device
polaris_n2_dev_use(polaris_fman_fp_t)
')
polaris_cpp_tmpfs_manage(polaris_fman_fp_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfmanfp.te
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
#
### <summary>Polaris wncmgrd Policy Rules.</summary>

#******************************************************************************
### <summary>
### Read access to /bootflash/NACert.pem
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
## </param>
#
interface('polaris_read_icap_cert_file',
    gen_require('    type polaris_icap_cert_t;
')    allow $1 polaris_icap_cert_t:file read_file_perms;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswncmgrd.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polariskeyman file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariskeyman.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

# /3pa staff
/3pa/usr/(.*)?lib64/(.*)? -- gen_context(system_u:object_r:lib_t:s0)
/3pa/usr/(.*)?lib/(.*)? -- gen_context(system_u:object_r:lib_t:s0)
/3pa/(.*)?lib64/(.*)? -- gen_context(system_u:object_r:lib_t:s0)
/3pa/(.*)?lib/(.*)? -- gen_context(system_u:object_r:lib_t:s0)
/3pa/usr/(.*)?sbin/(.*)? -- gen_context(system_u:object_r:bin_t:s0)
/3pa/usr/(.*)?bin/(.*)? -- gen_context(system_u:object_r:bin_t:s0)
/3pa/usr/sbin/libvirt_lxc -- gen_context(system_u:object_r:virtd_lxc_exec_t:s0)
/usr/lib/libvirt/libvirt_lxc -- gen_context(system_u:object_r:virtd_exec_t:s0)
/usr/sbin/libvirt_lxc -- gen_context(system_u:object_r:virtd_lxc_exec_t:s0)
/usr/sbin/libvirt -- gen_context(system_u:object_r:virt_lxc_exec_t:s0)
/usr/sbin/virtd -- gen_context(system_u:object_r:virtd_exec_t:s0)
/usr/sbin/virtlogd -- gen_context(system_u:object_r:virtlogd_exec_t:s0)
/usr/bin/virsh -- gen_context(system_u:object_r:virsh_exec_t:s0)
/usr/bin/qemu.* -- gen_context(system_u:object_r:qemu_exec_t:s0)
/usr/binos/conf/libvirtd.sh -- gen_context(system_u:object_r:virtd_initrc_exec_t:s0)
# should go into contrib/telnet.fc?
/usr/bin/os/sbin/in.telnetd     -- gen_context(system_u:object_r:telnetd_exec_t,s0)

# load_crash_kernel.sh loads crash kernel - it should be executable
/crashkernel/load_crash_kernel.sh -- gen_context(system_u:object_r:bin_t,s0)

# /etc/lablogin.sh is executed during telnet login over management port
# it should be executable. Also having shell_exec_t label will allow it
# to transition into unconfined domain
/etc/lablogin.sh -- gen_context(system_u:object_r:shell_exec_t,s0)

# /etc/init.d/*functions files should be actually in bin_t domain, the same
# as /etc/init.d/functions. Note using /etc/rc.d/init.d/ instead of
# /etc/init.d/ because we have substitution rule in file_contexts.subs.dist
/etc/rc.d/init.d/binos_functions     -- gen_context(system_u:object_r:bin_t,s0)
/etc/rc.d/init.d/binos_functions-pd -- gen_context(system_u:object_r:bin_t,s0)
/etc/rc.d/init.d/chasxml_functions   -- gen_context(system_u:object_r:bin_t,s0)
/etc/rc.d/init.d/common-utility-functions    -- gen_context(system_u:object_r:bin_t,s0)
/etc/rc.d/init.d/rh-functions        -- gen_context(system_u:object_r:bin_t,s0)

# tftp directories
/tftp     -d gen_context(system_u:object_r:tftpdir_rw_t,s0)
/tftp/.*   gen_context(system_u:object_r:tftpdir_rw_t,s0)

# /tmp/sw
/tmp/sw   -d gen_context(system_u:object_r:tmp_t,s0)
/tmp/rp   -d gen_context(system_u:object_r:tmp_t,s0)
/tmp/fp   -d gen_context(system_u:object_r:tmp_t,s0)
/tmp/cc   -d gen_context(system_u:object_r:tmp_t,s0)

# /tmp/etc
/tmp/etc   -d gen_context(system_u:object_r:polaris_etc_t,s0)

# /tmp/sv
/tmp/sv   -d gen_context(system_u:object_r:polaris_sv_tmp_t,s0)

# firmware files
/firmware(/.*)?   gen_context(system_u:object_r:polaris_firmware_t,s0)
/upgrade(/.*)?    gen_context(system_u:object_r:polaris_firmware_t,s0)
/golden(/.*)?     gen_context(system_u:object_r:polaris_firmware_t,s0)
# CC card fpd files mark it as usr_t for now
/fpd(/.*)?   -d gen_context(system_u:object_r:polaris_firmware_t,s0)

/tmp/debug\conf  -l gen_context(system_u:object_r:polaris_debug_confs_t,s0)
Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 427

/var/ODM/ios_core.p7b  -- gen_context(system_u:object_r:etc_t,s0)

/dev/ddr  -c gen_context(system_u:object_r:polaris_ddr_device_t,s0)
/dev/i2c-[0-9]*  -c gen_context(system_u:object_r:polaris_i2c_device_t,s0)

/l>(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/bin/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/lib64/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/bin/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/sbin/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/lib/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/lib64/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/binos/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/libos/bin/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/libos/sbin/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/libos/lib/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/usr/libos/lib64/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)
/opt/confd/lib/confd/lib/core/confd/priv/(*)/\.ebf(/*.)?  gen_context(system_u:object_r:polaris_ebf_t,s0)

# interpreter for CRDL 32bit IOSD setup proper memory map
/usr/binos/bin/crdl_mini_loader gen_context(system_u:object_r:ld_so_t,s0)

# firmware package mount point on asr1k platforms
/mnt/firmware(/*.)?  gen_context(system_u:object_r:polaris_firmware_t,s0)

/bootflash//USWAP(/*.)?  gen_context(system_u:object_r:polaris_uswap_files_t,s0)

# Nutella EFI folder
/bootflash/EFI(/*.)?  gen_context(system_u:object_r:polaris_efi_files_t,s0)

# for cat9k platform
/mnt/sd3/user/USWAP(/*.)?  gen_context(system_u:object_r:polaris_uswap_files_t,s0)

/tmp/rsync_log_dir(/*.)?  gen_context(system_u:object_r:polaris_rsync_tmp_t,s0)

# for wlc awips feature
/bootflash/awips.json  gen_context(system_u:object_r:polaris_awips_signature_file_t,s0)

# for wlc iot-gw feature to access /bootflash/certs dir
/bootflash/certs  -d  gen_context(system_u:object_r:polaris_ap_cert_file_t,s0)

# for curl - and allowing ip netns exec X curl
/usr/bin/curl--gen_context(system_u:object_r:polaris_curl_exec_t,s0)

# Katar WLC needs access to /tmp/ldwm_envelope
/tmp/ldwm_envelope -- gen_context(system_u:object_r:polaris_ldwm_envelope_tmp_t,s0)

# CLI: show platform software tech-support
/usr/binos/conf/platform_tech_support.sh -- gen_context(system_u:object_r:polaris_tech_support_exec_t,s0)

# Tamlib debug file
/bootflash/tamlib_dbg_log -- gen_context(system_u:object_r:polaris_tamlib_dbg_file_t,s0)

# crypsetup - some platforms copy crypsetup in /bin
/bin/cryptsetup -- gen_context(system_u:object_r:lvm_exec_t,s0)
/usr/bin/cryptsetup -- gen_context(system_u:object_r:lvm_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscommon.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisnvram file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisnvram.fc
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define('polaris_process', '')
dnl

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_process_if.m4
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polarisiptbl, 1.0);

# iptbl.sh manual

polaris_process_domain_template(iptbl)

corecmd_exec_bin(polaris_iptbl_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_iptbl_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_iptbl_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_iptbl_t)

# work with /tmp files
allow polaris_iptbl_t self:capability sys_resource;
allow polaris_iptbl_t self:process setpgid;

polaris_btrace_data_manage(polaris_iptbl_t)
polaris_cpld_read(polaris_iptbl_t)
polaris_chasfs_manage(polaris_iptbl_t)
polaris_boot_tmp_read(polaris_iptbl_t)
polaris_rmonbifo_tmp_read(polaris_iptbl_t)
polaris_proc_rmonbifo_getattr(polaris_iptbl_t)
polaris_proc_rmonbifo_read(polaris_iptbl_t)
polaris_disk_crashinfo_getattr(polaris_iptbl_t)

# execute /etc/init.d/iptables in its own domain
iptables_initrc_domtrans(polaris_iptbl_t)

# LOOK AT ME iptbl.sh puts symbolic links into /sbin directory
# need to fix manifest instead, so it will be static
gen_require(`
   type bin_t;
`)
manage_lnk_files_pattern(polaris_iptbl_t, bin_t, bin_t)
modutils_domtrans_insmod(polaris_iptbl_t)
iptables_domtrans(polaris_iptbl_t)

# iptbl.sh calls /etc/init.d/iptables restart and that needs
# read /proc/pid/net/ip_tables_names file
kernel_read_network_state(polaris_iptbl_t)
# creates /var/lock/subsys/iptables
# creates /var/lock/subsys/iptables
# creates /var/lock/subsys/iptables
# creates /var/lock/subsys/iptables

# needs access to /run/netns as part of chvrf invocation
fs_read_netfs_files(polaris_iptbl_t)
# iptbl.sh invokes iptable command which runs in iptables_t label and needs
# access to meta files created by iptbl.sh with label polaris_iptbl_tmp_t
allow iptables_t polaris_iptbl_tmp_t:fifo_file read_file_perms;
allow iptables_t polaris_iptbl_tmp_t:file read_file_perms;

# Allow /tmp/ufs/bootflash & /tmp/ufs/harddisk read access
ifdef(`vwlc_platform`,
optional_policy(`
polaris_ncd_tmp_read(polaris_iptbl_t)
`)')
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisiptbl.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/bin/bhytoolsd -- gen_context(system_u:object_r:polaris_bhytoolsd_exec_t:s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbhytoolsd.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
policy_module(polaris_autoupgrade, 1.0);

gen_require('  
    type polaris_autoupgrade_t;
')

corecmd_exec_bin(polaris_autoupgrade_t)
corecmd_exec_shell(polaris_autoupgrade_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_autoupgrade_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_autoupgrade_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_autoupgrade_t)

allow polaris_autoupgrade_t self:capability { sys_resource dac_override };  
allow polaris_autoupgrade_t self:process setpgid;

polaris_tldldb_list_dirs(polaris_autoupgrade_t)

polaris_btrace_data Manage(polaris_autoupgrade_t)  
polaris_chasfs_manage(polaris_autoupgrade_t)  
polaris_cpld_read(polaris_autoupgrade_t)  
polaris_proc_rmonbifo_read(polaris_autoupgrade_t)  
polaris_rmonbifo_tmp_read(polaris_autoupgrade_t)  
polaris_boot_tmpManage(polaris_autoupgrade_t)  
polaris_read_debug_conf(polaris_autoupgrade_t)  
polaris_disk_crashinfo_getattr(polaris_autoupgrade_t)

type polaris_autoupgrade_tmp_t;
files_tmp_file(polaris_autoupgrade_tmp_t)

# /tmp/etc/installer
gen_require('  
    type polaris_etc_t;
')
filetrans_pattern(polaris_autoupgrade_t, polaris_etc_t, polaris_autoupgrade_tmp_t, dir, "installer")
manage_fifo_files_pattern(polaris_autoupgrade_t, polaris_autoupgrade_tmp_t, polaris_autoupgrade_tmp_t)
manage_dirs_pattern(polaris_autoupgrade_t, polaris_etc_t, polaris_autoupgrade_tmp_t)
manage_files_pattern(polaris_autoupgrade_t, polaris_etc_t, polaris_autoupgrade_tmp_t)

# Allow access to bootflash
polaris_bootflash_read(polaris_autoupgrade_t)
# Allow access to packages.conf
polaris_read_packages_conf(polaris_autoupgrade_t)

# needs to run pidof
dev_read_sysfs(polaris_autoupgrade_t)
kernell_read_system_state(polaris_autoupgrade_t)
domain_read_all_domains_state(polaris_autoupgrade_t)

# send syslog
logging_send_syslog_msg(polaris_autoupgrade_t)

# script starts rsync with mcp_chvrf.sh
polaris_chvrf_domtrans(polaris_autoupgrade_t)
gen_require(
    type rsync_t;
')
allow rsync_t polaris_autoupgrade_t:process sigchld;

# /tmp/ufs/crashinfo access
optional_policy(
    polaris_ncd_tmp_read(polaris_autoupgrade_t)
')

# autoupgrade script in case of HA setup invokes brelay to trigger install of stand-by
polaris_bexecute_domtrans(polaris_autoupgrade_t)
polaris_flashlib_lock(polaris_autoupgrade_t)
polaris_flashlib_read(polaris_autoupgrade_t)
polaris_disk_install_read(polaris_autoupgrade_t)
polaris_install_engine_domtrans(polaris_autoupgrade_t)

#add transition to create /var/installer by autoupgrade
type polaris_autoupgrade_var_t;
files_tmp_file(polaris_autoupgrade_var_t)
files_var_filetrans(polaris_autoupgrade_t, polaris_autoupgrade_var_t, {file dir})
gen_require(
    type polaris_autoupgrade_exec_t;
')

#add transition to create /var/installer/auto_upgrade_helper.sh by autoupgrade
filetrans_pattern(polaris_autoupgrade_t,polaris_autoupgrade_var_t, polaris_autoupgrade_exec_t, file, "auto_upgrade_helper.sh")
manage_files_pattern(polaris_autoupgrade_t, polaris_autoupgrade_var_t, polaris_autoupgrade_var_t)
manage_dirs_pattern(polaris_autoupgrade_t, polaris_autoupgrade_var_t, polaris_autoupgrade_var_t)

#add transition to create files/dir in /tmp
files_tmp_filetrans(polaris_autoupgrade_t, polaris_autoupgrade_tmp_t, {file dir})
# access to /tmp/installer
polaris_install_tmp_manager(polaris_autoupgrade_t)

fs_getattr_tmpfs(polaris_autoupgrade_t)

# access to /tmp/rsync_log_dir
polaris_manage_rsync_tmplog_dir(polaris_autoupgrade_t)

# access to /harddisk link (accessed by flashutil and rotee call)
polaris_disk_harddisk_read_link(polaris_autoupgrade_t)

rsync_entry_domtrans(polaris_chvrf_t, rsync_t)

gen_require(' type polaris_autoupgrade_t;
     type polaris_autoupgrade_exec_t;
')
rsync_entry_domtrans(polaris_autoupgrade_t, rsync_t)
polaris_bexecute_domain(polaris_autoupgrade_t, polaris_autoupgrade_exec_t)

fs_getattr_xattr_fs(polaris_autoupgrade_t)

# auto_upgrade_helper.sh creates /var/installer/auto_upgrade_helper.sh
allow polaris_autoupgrade_t polaris_autoupgrade_exec_t:file { create setattr write };  

# rsync operations for members and standby rps on autoupgrade
gen_require(' type rsync_port_t;
')
allow polaris_autoupgrade_t rsync_port_t:tcp_socket name_connect;

# rsync requires to relabel /var/installer/auto_upgrade_helper.sh on standby
gen_require(' type var_t;
')
allow rsync_t var_t:file relabelfrom;
allow rsync_t polaris_autoupgrade_exec_t:file relabelto;

# access to /vol/harddisk/*.pkg
polaris_getattr_file_harddisk(polaris_autoupgrade_t)

# access to /cdrom0/ when *ova image is booted during
# first instance of vwlc on ucs server
polaris_removable_read(polaris_autoupgrade_t)

polaris_getattr_file_harddisk(polaris_autoupgrade_t)
# auto_upgrade_client.sh access to "/tmp/sw/rp/0/0rp_base/mount/bin/cut"
polaris_issu_tmp_files_read(polaris_autoupgrade_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisautoupgrade.te
No license file was found, but licenses were detected in source scan.

#
# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#
/usr/bin/os/conf/run_ioxn_caf.sh -- gen_context(system_u:object_r:polaris_caf_exec_t,s0)
/usr/bin/os/conf/iox.reset.sh -- gen_context(system_u:object_r:polaris_caf_exec_t,s0)

ifdef(`nyquist_platform',
/usr/bin/os/conf/standby_ioxcfg.sh -- gen_context(system_u:object_r:polaris_sioxcd_rp_exec_t,s0)
/tmp/app_host(/.*)? gen_context(system_u:object_r:polaris_sioxcd_rp_tmp_t,s0)
/mnt/sd3/iox_alt_hdd.dsk gen_context(system_u:object_r:polaris_iox_alt_hdd_files_t,s0)
/mnt/sd3/iox_alt_hdd_mount_dir(/.*)? gen_context(system_u:object_r:polaris_iox_alt_hdd_files_t,s0)
/mnt/sd3/iox_alt_hdd_mount_dir/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/mnt/sd3/iox_alt_hdd_mount_dir/caf(/.*)? gen_context(system_u:object_r:polaris_caf_tmp_files_t,s0)
/mnt/sd3/iox_alt_hdd_mount_dir/data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/mnt/sd3/iox_alt_hdd_mount_dir/host_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/mnt/sd3/iox_alt_hdd_mount_dir/guest_share(/.*)? gen_context(system_u:object_r:polaris_iox_shared_files_t,s0)
/mnt/sd3/user/gs_script/sss(/.*)? gen_context(system_u:object_r:polaris_iox_ss_disk_t,s0)
')

ifdef(`passport_platform',
/flash/iox_alt_hdd.dsk gen_context(system_u:object_r:polaris_iox_alt_hdd_files_t,s0)
/flash/iox_alt_hdd_mount_dir(/.*)? gen_context(system_u:object_r:polaris_iox_alt_hdd_files_t,s0)
/flash/iox_alt_hdd_mount_dir/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/flash/iox_alt_hdd_mount_dir/caf(/.*)? gen_context(system_u:object_r:polaris_caf_tmp_files_t,s0)
/flash/iox_alt_hdd_mount_dir/data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/flash/iox_alt_hdd_mount_dir/host_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/flash/iox_alt_hdd_mount_dir/guest_share(/.*)? gen_context(system_u:object_r:polaris_iox_shared_files_t,s0)
/flash/user/gs_script/sss(/.*)? gen_context(system_u:object_r:polaris_iox_ss_disk_t,s0)
/usr/bin/os/conf/standby_ioxcfg.sh gen_context(system_u:object_r:polaris_sioxcd_rp_exec_t,s0)
/tmp/app_host(/.*)? gen_context(system_u:object_r:polaris_sioxcd_rp_tmp_t,s0)
')

#All possible accesses from /bootflash/iox_alt_hdd_mount_dir (iox_polaris.conf)
/bootflash/iox_alt_hdd.dsk gen_context(system_u:object_r:polaris_iox_alt_hdd_files_t,s0)
/bootflash/iox_alt_hdd_mount_dir(/.*)?
gen_context(system_u:object_r:polaris_iox_alt_hdd_files_t,s0)
/bootflash/iox_alt_hdd_mount_dir/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/bootflash/iox_alt_hdd_mount_dir/caf(/.*)? gen_context(system_u:object_r:polaris_caf_tmp_files_t,s0)
/bootflash/iox_alt_hdd_mount_dir/iox_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/bootflash/iox_alt_hdd_mount_dir/iox_host_data_share(/.*)?

gen_context(system_u:object_r:polaris_iox_files_t,s0)
/bootflash/iox_alt_hdd_mount_dir/guest_share(/.*)?
/gen_context(system_u:object_r:polaris_iox_shared_files_t,s0)
/bootflash/user/gs_script/sss(/.*)? gen_context(system_u:object_r:polaris_iox_ss_disk_t,s0)

#All the possible IOX guestshell_dir from iox_polaris.conf
/guestshell(/.*)?([.]sh) gen_context(system_u:object_r:polaris_guestshell_exec_t,s0)
/guestshell(/.*)? gen_context(system_u:object_r:polaris_guestshell_t,s0)

#All the possible IOX flash_dir/harddisk_dir from iox_polaris.conf
/bootflash/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/mnt/sd3/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/flash1/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/flash11/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/vol/harddisk/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/vol/disk0/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/vol/usb1/iox(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)

/bootflash/iox_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/mnt/sd3/iox_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/flash1/iox_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/flash11/iox_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/vol/harddisk/iox_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/vol/disk0/iox_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/vol/usb1/iox_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)

/bootflash/iox_host_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/mnt/sd3/iox_host_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/flash1/iox_host_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/flash11/iox_host_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/vol/harddisk/iox_host_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/vol/disk0/iox_host_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)
/vol/usb1/iox_host_data_share(/.*)? gen_context(system_u:object_r:polaris_iox_files_t,s0)

/opt/cisco/caf/scripts/(.*)?([.]sh) gen_context(system_u:object_r:polaris_caf_exec_t,s0)
/opt/cisco/caf/(.*)?([.]sh) gen_context(system_u:object_r:polaris_caf_files_t,s0)

/var/log/caf(/.*)? gen_context(system_u:object_r:polaris_caf_log_t,s0)
/etc/guestshell_rsa_key\pub gen_context(system_u:object_r:polaris_guestshell_ssh_key_t,s0)
/etc/guestshell_rsa_key gen_context(system_u:object_r:polaris_guestshell_ssh_key_t,s0)
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscaf.fc
No license file was found, but licenses were detected in source scan.

#
# December 2019, Victor Kamensky
#
# Copyright (c) 2019 by Cisco Systems, Inc.
# All rights reserved
#
#
# polarisfnfagg file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfnfagg.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris cmm Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmm.if

No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisplogd file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisplogd.fc

No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl divert(-1)

include('polaris_process.m4')
include('polaris_process_if.m4')

include('polaris_ipc_mqipc.m4')
include('polaris_ipc_mqipc_if.m4')

include('polaris_ipc_ripc.m4')
include('polaris_ipc_ripc_if.m4')

include('polaris_ipc_lipc.m4')
include('polaris_ipc_lipc_if.m4')

# Stub out non existent one
define('polaris_websocket_service_server',``)
define('polaris_cipc_service_server',``)

include('polaris_max_scope.m4')

divert(0)dnl
#
# This is a generated file! Instead of modifying this file,
# modify proper platform TDL file.
#
## <summary>Polaris Platform IPC Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_if.m4
No license file was found, but licenses were detected in source scan.

# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/tmp/.l.ndbutil-loadgen_context(system_u:object_r:polaris_dmi_ndbutil_lock_t,s0)
/tmp/.l.ndbutil-use gen_context(system_u:object_r:polaris_dmi_ndbutil_lock_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmindbmand.fc
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
/dev/cpp_vxe_rsrc  -c gen_context(system_u:object_r:polaris_cpp_device_t,s0)
/dev/cpp_dev_info   -c gen_context(system_u:object_r:polaris_cpp_device_t,s0)
/dev/cpp           -c gen_context(system_u:object_r:polaris_cpp_device_t,s0)
/dev/cpp_kipc       -c gen_context(system_u:object_r:polaris_cpp_device_t,s0)
# on ing box
/dev/octeon_device  -c gen_context(system_u:object_r:polaris_cpp_device_t,s0)
/dev/cpp_pdma       -c gen_context(system_u:object_r:polaris_cpp_device_t,s0)
/dev/i95_[0-9]*     -c gen_context(system_u:object_r:polaris_i95_device_t,s0)
/dev/shm/cpp_ifdev_rep -p gen_context(system_u:object_r:polaris_cpp_tmpfs_t,s0)
/dev/shm/cpp_*      -- gen_context(system_u:object_r:polaris_cpp_tmpfs_t,s0)
/dev/shm/sem.cpp_*   -- gen_context(system_u:object_r:polaris_cpp_tmpfs_t,s0)
/dev/shm/sem\CPP_*   -- gen_context(system_u:object_r:polaris_cpp_tmpfs_t,s0)
/dev/shm/sem\CGM_SHM_SEM -- gen_context(system_u:object_r:polaris_cpp_tmpfs_t,s0)
/dev/shm/cpp_ucode_dram -- gen_context(system_u:object_r:polaris_cpp_tmpfs_t,s0)
/dev/shm/cpp_sbs_shm  -- gen_context(system_u:object_r:polaris_cpp_tmpfs_t,s0)
/mnt/huge/cpp_ucode_dram  -- gen_context(system_u:object_r:polaris_cpp_tmpfs_t,s0)
/tmp/cpp_ifdev_rep  -p gen_context(system_u:object_r:polaris_cpp_tmpfs_t,s0)
policy_module(polarisservicemgr, 1.0);

    gen_require(
        type polaris_service_mgr_t;
    )

    polaris_btrace_data_manage(polaris_service_mgr_t)
    polaris_crft_data_manage(polaris_service_mgr_t)
    polaris_chasfs_manage(polaris_service_mgr_t)
    polaris_cpld_read(polaris_service_mgr_t)
    polaris_flashlib_read(polaris_service_mgr_t)
    polaris_lua_read(polaris_service_mgr_t)
    polaris_tdlresolve_read(polaris_service_mgr_t)
    polaris_ripc_sman_ui_serv_connect(polaris_service_mgr_t)
    polaris_db_tdlldb_dir_use(polaris_service_mgr_t)

    # Use REPM MQIPC for replication
    polaris_repm_peer_mqipc Manage(polaris_service_mgr_t)

    #watches of /tmp/[rp|fp|cc]/pvp/process_state directory
    polaris_process_state_watch(polaris_service_mgr_t)

    # Use REPM MQIPC for replication
    polaris_repm Peer_mqipc Manage(polaris_service_mgr_t)

    #watches of /tmp/[rp|fp|cc]/pvp/process_state directory
    polaris_process_state_watch(polaris_service_mgr_t)
policy_module(polarispvp, 1.0);

polaris_process_domain_template(pvp)

# transition to pman domain, once pman is invoked by pvp
polaris_pman_domtrans(polaris_pvp_t)

corecmd_exec_bin(polaris_pvp_t)
corecmd_exec_shell(polaris_pvp_t)
# can execute hostname in pvp domain
hostname_exec(polaris_pvp_t)
# can execute process in polaris domain
polaris_exec(polaris_pvp_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_pvp_t)

# allow to get getattr of /proc file system during find over it
kernel_getattr_proc(polaris_pvp_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_pvp_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_pvp_t)

# all to read sysctl files in /proc directory
kernel_read_all_sysctls(polaris_pvp_t)

# work with /tmp files
type polaris_pvp_tmp_t;
files_tmp_file(polaris_pvp_tmp_t)
manage_dirs_pattern(polaris_pvp_t, tmp_t, polaris_pvp_tmp_t)
manage_files_pattern(polaris_pvp_t, polaris_pvp_tmp_t, polaris_pvp_tmp_t)
manage_fifo_files_pattern(polaris_pvp_t, polaris_pvp_tmp_t, polaris_pvp_tmp_t)
files_tmp_filetrans(polaris_pvp_t, polaris_pvp_tmp_t, { file dir })
filetrans_pattern(domain, tmp_t, polaris_pvp_tmp_t, dir, "pvp")

# /tmp/silent_roll_select.log handling on Macallan
filetrans_pattern(domain, tmp_t, polaris_pvp_tmp_t, file, "silent_roll_select.log")

# work with /tmp/[rp]f[pc]c/pvp/process_state files
type polaris_process_state_t;
files_tmp_file(polaris_process_state_t)
manage_dirs_pattern(polaris_pvp_t, polaris_pvp_tmp_t, polaris_process_state_t)
manage_files_pattern(polaris_pvp_t, polaris_pvp_tmp_t, polaris_process_state_t)
filetrans_pattern(polaris_pvp_t, polaris_pvp_tmp_t, polaris_process_state_t, dir, "process_state")
# LOOK AT ME now all polaris process can change each other process
# state. Need to fix it with more process specific labels in case
# when polaris_domain_process becomes template.
gen_require('attribute polaris_domain;
')
polaris_pvp_manage_process_state_files(polaris_domain)

allow polaris_pvp_t self:capability sys_resource;

# readlink access to /proc/<pid>/fd/0 triggers sys_ptrace capability need
allow polaris_pvp_t self:capability { sys_ptrace };

dmidecode_domtrans(polaris_pvp_t)

# on some ngwc pvp has to code-sign-verify silent roll packages
ifdef(`ngwc_family',`
polaris_code_verify_domtrans(polaris_pvp_t)
')

polaris_btrace_data_manage_all(polaris_pvp_t)
polaris_chasfs_manage(polaris_pvp_t)
polaris_cpld_read(polaris_pvp_t)
polaris_cpld_write(polaris_pvp_t)
polaris_proc_rmonbifo_read(polaris_pvp_t)
polaris_rmonbifo_tmp_read(polaris_pvp_t)
polaris_tdlldb_list_dirs(polaris_pvp_t)
polaris_boot_tmp_read(polaris_pvp_t)
polaris_read_debug_conf(polaris_pvp_t)

# LOOK AT ME pvp.sh runs find over /proc. Needs access
# to state of all processes
domain_read_all_domains_state(polaris_pvp_t)

# pvp.sh can call logger command
logging_send_syslog_msg(polaris_pvp_t)

# should it not be moved to dmidecode module or better
# change script to call dmidecode with stdin redirected
# from /dev/null (i.e dmidecode < /dev/null)
gen_require('type dmidecode_t;
')
polaris_pvp_stdin_read(dmidecode_t)

# read pman tmp files
polaris_pman_read_tmp_files(polaris_pvp_t)
#allow polaris_pvp_t polaris_udev_tmp_files_t:dir { getattr search ;
polaris_udev_tmp_list_dirs(polaris_pvp_t)

gen_require('t
    type initrc_t;
    type init_t;
')
#init_script_tmpfiletrans(initrc_t, polaris_pvp_tmp_t, file, "iosd_memory_share")
files_tmp_filetrans({ initrc_t init_t }, polaris_pvp_tmp_t, file, "iosd_memory_share")
polaris_systemd_tmpfiles_tmp_filetrans(polaris_pvp_tmp_t, dir, "max_elastic_bays")
# direct access to serial TTY devices like /dev/ttyS1
term_write_unallocated_ttys(polaris_pvp_t)

# For Cabo, allow access to GNSS device
ifdef('cabo_platform','
polaris_cabo_gnss_dev_use(polaris_pvp_t)
')

# on ultra pvp calls hv_ttyprobe utility to figure out what terminal
# to use as console, and this one need read access to terminal. There is
# no separate macro for read only. But since we granting write to everyone
# let use 'use' which means read/write
ifdef('vxe_family','
term_use_unallocated_ttys(polaris_pvp_t)
')
ifdef('wlc_family','
term_use_unallocated_ttys(polaris_pvp_t)
')

# pvp's linux_iosd_image_env.sh will check /dev/ttyUSB* ports with hv_ttyprobe too.
term_use_usb_ttys(polaris_pvp_t)

# allow access and modify files in /tftp directory, cannot use tftp_manage_rw_content
# since it does not cover link files
gen_require('t
    type tftpdir_rw_t;
')
manage_dirs_pattern(polaris_pvp_t, tftpdir_rw_t, tftpdir_rw_t)
manage_files_pattern(polaris_pvp_t, tftpdir_rw_t, tftpdir_rw_t)
manage_lnk_files_pattern(polaris_pvp_t, tftpdir_rw_t, tftpdir_rw_t)

# ASR1K modular platforms create /tftp/inv/inventory_$fru_$slot.bin
# /tftp/inv is not a softlink but a directory for asr1k Modular platforms.
# So it needs a file transition to polaris_chasfs_t for accessing it.
ifdef('mcp_family','
filetrans_pattern(domain, tftpdir_rw_t, polaris_chasfs_t, dir, "inv")
')
# on ultra platform hv_ttyprobe utility that runs under polaris_pvp_t label
# checks for existence of /boot/ttyS0_ignore file; and since /boot is symlink
# to /varied it need dir search permission over polaris_disk_varied_t
ifdef(`vxe_family',`
polaris_disk_varied_search(polaris_pvp_t)
')
ifdef(`wlc_family',`
polaris_disk_varied_search(polaris_pvp_t)
')

# pvp.sh calls cp utility with -a option that should preserve files
# attributes as result cp needs to perform set_process_security_ctx call
# which in turns calls setfscreate
allow polaris_pvp_t self:process setfscreate;

# pvp.sh calls pidof utility and it needs read access to sysfs_t
#
# When resetting a partner, pvp writes to the PCIe switch global
# reset register using the i2c driver, which is also sysfs_t
# LOOK AT ME should we create a new type for the PCIe switch reg
dev_rw_sysfs(polaris_pvp_t)

# wants to execute /bin/dmesg
dmesg_domtrans(polaris_pvp_t)

# wants to read from /tmp/rp/pvp/work/inot_fifo
gen_require(`
    type dmesg_t;
')
rw_fifo_files_pattern(dmesg_t, polaris_pvp_tmp_t, polaris_pvp_tmp_t)

# wants to write into /bootflash/.prst_sync
polaris_persistent_manage(polaris_pvp_t)

# pvp tried to find all except hman polaris process with
# 'find /tmp/rp/process -name *.pid ! -name *hman* -printf %p' command
# should be able to read pman tmp files
polaris_pman_read_tmp_files(polaris_pvp_t)

# on way down pvp.sh call 'workon.sh rp 0 rotate force' so we
# need to transition and run it in btrace_rotate domain
polaris_btrace_rotate_domtrans(polaris_pvp_t)

# on way down pvp.sh checks for *.TEMP_IN_PROGRESS in /misc/scratch/core
# need to be able read /misc/scratch link
polaris_disk_bootflash_read_lnk(polaris_pvp_t)
implode.sh things, should we run them in its own domain?

removes /etc/exports, create a new empty one and runs `exportfs -ua`
this action also needs kernel rw_rpc_sysctls to flush
files_manage_etc_files(polaris_pvp_t)
gen_require(
    type exports_t;
)
allow polaris_pvp_t exports_t:file delete_file_perms;
rpc_write_exports(polaris_pvp_t)
rpc_manage_nfs_state_data(polaris_pvp_t)
kernel_rw_rpc_sysctls(polaris_pvp_t)

# calls `systemctl reboot`
systemd_start_power_services(polaris_pvp_t)

# pvp on 1ng attempts to rm readonly fpd firmware file, not sure why
polaris_firmware_getattr(polaris_pvp_t)

# pvp reads /tmp/iosd_level
polaris_lm_tmp_read(polaris_pvp_t)
allow polaris_pvp_t self:capability dac_override;

# in some image pvp needs to monut /tmp/rp/tdldb, in other images
# it got mount by chasfs_boottime.sh systemd unit
polaris_tdldb_manage_dirs(polaris_pvp_t)
mount_domtrans(polaris_pvp_t)

# in some cases pvp script creates /tmp/xx/process directory
polaris_pman_tmp_filetrans(polaris_pvp_t, dir, "process")
polaris_pman_manage_tmp_files(polaris_pvp_t)

# on ngwc pvp creates /flash1/NVRAM directory
gen_require(
    type polaris_nvram_file_t;
    type root_t;
    )
filetrans_pattern(polaris_pvp_t, root_t, polaris_nvram_file_t, dir, "flash1")
manage_dirs_pattern(polaris_pvp_t, polaris_nvram_file_t, polaris_nvram_file_t)

# obtain access to rommon vars which live in flashlib
polaris_flashlib_read(polaris_pvp_t)
polaris_flashlib_write(polaris_pvp_t)

# on ngwc platforms pvp creates /obfl_cc directory and soft links it
to the correct vbd device
ifdef(`ngwc_family',`
gen_require('
type polaris_obfl_data_t;
  type root_t;
);
filetrans_pattern(polaris_pvp_t, root_t, polaris_obfl_data_t, dir, "obfl_cc")
);  

# on ngwc platforms pvp needs to be able to determine if the the vbd devices
# exist. The types may be slightly different depending on whether the cc's
# device node is managed by udev or not
ifdef(`ngwc_family',``
dev_getattr_generic_blk_files(polaris_pvp_t)
stORAGE_getattr_fixed_disk_dev(polaris_pvp_t)
udev_read_db(polaris_pvp_t)
);  

# on ngwc platforms pvp soft links the /tmp/sw/cc_srdriver/<slot> directory
# to the correct silent roll software package via vbd_sr_app_init()
ifdef(`ngwc_family',``
polaris_sw_data_manage(polaris_pvp_t)
);  

# on blackheart pvp creates /blackheart_config directory
ifdef(`blackheart_platform',``
gen_require(`
    type polaris_nvram_file_t;
    type root_t;
);
filetrans_pattern(polaris_pvp_t, root_t, polaris_nvram_file_t, dir, "blackheart_config")
manage_dirs_pattern(polaris_pvp_t, polaris_nvram_file_t, polaris_nvram_file_t)
);  

# on sparrow pvp creates /sparrow_config directory
ifdef(`sparrow_platform',``
gen_require(`
    type polaris_nvram_file_t;
    type root_t;
);
filetrans_pattern(polaris_pvp_t, root_t, polaris_nvram_file_t, dir, "sparrow_config")
manage_dirs_pattern(polaris_pvp_t, polaris_nvram_file_t, polaris_nvram_file_t)
);  

# on Aventus pvp creates /aventus_config directory
ifdef(`aventus_platform',``
gen_require(`
    type polaris_nvram_file_t;
    type root_t;
);
filetrans_pattern(polaris_pvp_t, root_t, polaris_nvram_file_t, dir, "aventus_config")
manage_dirs_pattern(polaris_pvp_t, polaris_nvram_file_t, polaris_nvram_file_t)
);
fs_manage_configfs_files(polaris_pvp_t)

# on utah for cc and on l1ng cyan_init.sh is executed by pvp
polaris_dyncfg_domtrans(polaris_pvp_t)
# should it not be moved to cyan module or better
# change script to call cyan_init.sh with stdin redirected
# from /dev/null (i.e cyan_init.sh < /dev/null)
gen_require('        type polaris_dyncfg_t;
')
polaris_pvp_stdin_read(polaris_dyncfg_t)

# mktmpfd checks /tmp file system attributes
fs_getattr_tmpfs(polaris_pvp_t)

optional_policy('        # pvp on nyquist ls /tmp/ufs/crashinfo
polaris_ncd_tmp_read(polaris_pvp_t)
')

# transition to polaris_load_usbnet_t, once load_usbnet.sh is invoked by pvp
# crankshaft platforms need access to configfs
ifdef('crankshaft_family',
polaris_load_usbnet_domtrans(polaris_pvp_t)
gen_require('        type configfs_t;
')
allow polaris_pvp_t configfs_t:dir getattr;
')

# runs rsync -ptgoDLq /bootflash/issu_crash/fru_crash rsync://rp0-0/bootflash/... rsync_entry_type(polaris_pvp_t)
ifdef('ngwc_family',
polaris_chvrf_domtrans(polaris_pvp_t)
gen_require('        type rsync_t;
')
allow rsync_t polaris_pvp_t:process sigchld;

# pvp_tmp file descriptor leaks into mcp_chvrf.sh
gen_require('        type polaris_chvrf_t;
        type polaris_pvp_tmp_t;
')
allow polaris_chvrf_t polaris_pvp_tmp_t:fifo_file { ioctl read };
')
# statfs64 over /tmp
fs_getattr_xattr_fs(polaris_pvp_t)

corenet_tdlresolve_read(polaris_pvp_t)

corenet_tcp_connect_rsync_port(polaris_pvp_t)

# runs over /proc/<pid>/net/arp
kernel_read_network_state(polaris_pvp_t)

# runs over /proc/
kernl_read_network_state_symlinks(polaris_pvp_t)

# work with mounts
mount_domtrans(polaris_pvp_t)

optional_policy(‘
# pvp.sh may mark or clear bits in /proc/exiting_bays
polaris_rw_exiting_bays(polaris_pvp_t)
’)

optional_policy(‘
corenet_runtime_domtrans(polaris_pvp_t)
’)

# LOOK AT ME /usr/binos/conf/dockerd_env.sh not only sets environment
# it also does quite a bit of action in context of pvp when it got
# sourced before dockerd start
optional_policy(‘
fs_getattr_all_fs(polaris_pvp_t)
files_getattr_all_dirs(polaris_pvp_t)
fs_read_nsfs_files(polaris_pvp_t)
corenet_manage_config_files(polaris_pvp_t)
polaris_caf_files_read(polaris_pvp_t)
# creates /var/log/docker/docker.log
logging_manage_generic_logs(polaris_pvp_t)
gen_require(‘
    type var_log_t;
’)
allow polaris_pvp_t var_log_t:dir create;
’)

# support uswap feature.
# pvp script create and deletes
# the /bootflash/uswap/... folder.
type polaris_uswap_files_t;
files_type(polaris_uswap_files_t)
polaris_pfile_type(polaris_uswap_files_t)
filetrans_pattern(polaris_pvp_t, polaris_disk_bootflash_t, polaris_uswap_files_t, dir, ".USWAP")
manage_dirs_pattern(polaris_pvp_t, polaris_uswap_files_t, polaris_uswap_files_t)
manage_files_pattern(polaris_pvp_t, polaris_uswap_files_t, polaris_uswap_files_t)
manage_lnk_files_pattern(polaris_pvp_t, polaris_uswap_files_t, polaris_uswap_files_t)

# support for pvp to create /harddisk/.CRFT directory
filetrans_pattern(polaris_pvp_t, polaris_disk_bootflash_t, polaris_crft_data_t, dir, ".CRFT")

# Support SAI

type polaris_pvp_sai_t;
files_tmp_file(polaris_pvp_sai_t)
filetrans_pattern(polaris_pvp_t, polaris_pvp_tmp_t, polaris_pvp_sai_t, dir, "sai_process")
manage_dirs_pattern(polaris_pvp_t, polaris_pvp_tmp_t, polaris_pvp_sai_t)
manage_files_pattern(polaris_pvp_t, polaris_pvp_tmp_t, polaris_pvp_sai_t)

# all processes controlled by pchort require access to sai files

gen_require(
    attribute polaris_domain;
)
polaris_pvp_read_sai_files(polaris_domain)

ifdef( "ngwc_family", \
    # ngmod_vbd_handle_mount@.service started by pvp on macallan
    systemd_config_generic_services(polaris_pvp_t)
    )

type polaris_pvp_var_run_t;
files_pid_file(polaris_pvp_var_run_t)
gen_require(
    type var_run_t;
)
manage_files_pattern(polaris_pvp_t, var_run_t, polaris_pvp_var_run_t)
files_pid_filetrans(polaris_pvp_t, polaris_pvp_var_run_t, file, ".uswap_clr_rp")
files_pid_filetrans(polaris_pvp_t, polaris_pvp_var_run_t, file, ".uswap_clr_fp")
files_pid_filetrans(polaris_pvp_t, polaris_pvp_var_run_t, file, ".uswap_clr_cc")

# watch over /tmp/rp/pvp/control
allow polaris_pvp_t polaris_pvp_tmp_t:dir watch;

## permissions required during shutdown

# implode.sh 'systemctl reboot' uses dbus
dbus_system_bus_client(polaris_pvp_t)

# and checks reboot.target
systemd_status_power_services(polaris_pvp_t)

# writes sysctrl_i2c.lck file
gen_require('  
  type polaris_cm_rp_tmp_t;  
')
files_tmp_filetrans(polaris_pvp_t, polaris_cm_rp_tmp_t, file, "sysctrl_i2c.lck")
polaris_cm_rp_tmp_manage(polaris_pvp_t)

# journalctl and ifconfig are used when gathering logs during a punt-inject  
# crash
journalctl_domtrans(polaris_pvp_t)
sysnet_domtrans_ifconfig(polaris_pvp_t)
# and allow it to write to our shutdownlog
gen_require('  
  type ifconfig_t;  
')
polaris_btrace_data_manage_all(ifconfig_t)

# implode.sh checks ip interfaces before ifconfig
polaris_socketat_nsfs_read(polaris_pvp_t)

# cedge uses logrotate
polaris_ripc_confid_ipc_connect(polaris_pvp_t)
# logrotate perms
polaris_confid_var_log_manage(polaris_pvp_t)
allow polaris_pvp_t self:capability { chown fowner };
# var_lib stuff
files_manage_urandom_seed(polaris_pvp_t)

# vconfd_script_admin_tech.sh is invoked by pvp.sh. This requires a domain  
# transition from pvp to admin tech context.
polaris_admin_tech_domtrans(polaris_pvp_t)

## systemreport related permissions
# pd_info collection when triggering systemreport  
# fdisk permissions
storage_raw_read_fixed_disk( polaris_pvp_t );
fstools_manage_entry_files( polaris_pvp_t );
fstools_exec( polaris_pvp_t );
polaris_rommon_device_read(polaris_pvp_t)
# dmesg writes to pd_info path
write_files_pattern(dmesg_t, polaris_disk_bootflash_t, polaris_disk_bootflash_t )
gen_require('  
  type admin_home_t;  
')
# top creates/writes dir /.config
allow polaris_pvp_t admin_home_t:dir { add_name create write };
# drop-caches
kernel_rw_vm_sysctls( polaris_pvp_t );
# systemreport collection reads all sorts of files
# but also deletes those files afterwards...
logging_manage_audit_log(polaris_pvp_t)

# report collects maroon data
polaris_maroon_data_manage_all(polaris_pvp_t);
polaris_tdlresolve_manage(polaris_pvp_t);

# collect udev log
polaris_udev_tmp_manage(polaris_pvp_t)

init_status(polaris_pvp_t);

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispvp.te
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define(`ripc_stem', `translit(patsubst($1, `-ripc$', `'), `-', `_'))
define(`ripc_label', `format(`polaris_%s_ripc_port_t', ripc_stem($1))')

dnl Ripc Type Map: track that type declations unique
define(`ripc_type_map', `defn(format(``ripc_type_map[%s]'', `$1'))')
define(`ripc_type_map_set', `define(format(``ripc_type_map[%s]'', `$1'), `$2')')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_ripc.m4
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polarisquack, 1.0);

# Quack Driver policy

Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 450
type polaris_quack_device_t;
dev_node(polaris_quack_device_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisquack.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

# Polaris lua files
/ lua/(.*)?/(.*)\.lua --gen_context(system_u:object_r:polaris_lua_file_t,s0)
/usr/bin/os/conf/(.*)?/(.*)\.lua--gen_context(system_u:object_r:polaris_lua_file_t,s0)
/lua/(.*)?/(.*)\.so --gen_context(system_u:object_r:lib_t,s0)
/lua/(.*)?/(.*)-d gen_context(system_u:object_r:usr_t,s0)
/lua -d gen_context(system_u:object_r:usr_t,s0)

# Polaris nginx lua files
/var/scripts/lua/(.*)? -d gen_context(system_u:object_r:polaris_lua_file_t,s0)
/var/scripts/lua/(.*)? -- gen_context(system_u:object_r:polaris_lua_file_t,s0)

# why did we put .so libraries in /var directory?
/var/LibLua/LuaXML_lib\.so --gen_context(system_u:object_r:lib_t,s0)
/var/LibLua/cjson\.so --gen_context(system_u:object_r:lib_t,s0)
/var/LibLua/(.*)\.lua --gen_context(system_u:object_r:polaris_lua_file_t,s0)

#/lua -- gen_context(system_u:object_r:polaris_lua_file_t,s0)
/lua/(.*)? -- gen_context(system_u:object_r:polaris_lua_file_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislua.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/tmp/sw/cfg/(.*)? gen_context(system_u:object_r:polaris_cfg_data_t,s0)
/usr/bin/os/conf/cfg_sync.sh -- gen_context(system_u:object_r:polaris_cfg_sync_exec_t,s0)
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscfg.fc
No license file was found, but licenses were detected in source scan.

# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/var/log/dmi(/.*)?            gen_context(system_u:object_r:polaris_dmi_var_log_t,s0)
/tmp/stream-parsers(/.*)?     gen_context(system_u:object_r:polaris_dmi_parser_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmiopdatamgrd.fc
No license file was found, but licenses were detected in source scan.

# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris container Policy Rules.</summary>

################################
## <summary>
##	Creates types and rules for a basic
##	polaris container process domain.
## </summary>
## <param name="stem">
##<summary>
##Stem for the domain. Name is constructed as polaris_stem_container_t
##</summary>
## </param>
#
template(`polaris_container_domain_template`,
  gen_require(`
    type svirt_sandbox_file_t;
    type virt_lxc_var_run_t;
    attribute sandbox_net_domain;
    attribute svirt_sandbox_domain;
    bool virt_sandbox_use_sys_admin;
    bool virt_sandbox_use_mknod;
    bool virt_sandbox_use_all_caps;
  `);

bool virt_sandbox_use_netlink;

)

type polaris_$1_container_t, svirt_sandbox_domain;
domain_type(polaris_$1_container_t)
domain_user_exemption_target(polaris_$1_container_t)
mls_rangetrans_target(polaris_$1_container_t)
mcs_constrained(polaris_$1_container_t)
role system_r types polaris_$1_container_t;

logging_send_syslog_msg(polaris_$1_container_t)
kernel_read_system_state(polaris_$1_container_t)
kernell_read_all_proc(polaris_$1_container_t)

virt_default_capabilities(polaris_$1_container_t)
typeattribute polaris_$1_container_t sandbox_net_domain;
dontaudit polaris_$1_container_t self:capability fsetid;
dontaudit polaris_$1_container_t self:capability2 block_suspend;
allow polaris_$1_container_t self:process { execstack execmem };
manage_chr_files_pattern(polaris_$1_container_t, svirt_sandbox_file_t, svirt_sandbox_file_t)
kernell_load_module(polaris_$1_container_t)

tunable_policy(`virt_sandbox_use_sys_admin',
    allow polaris_$1_container_t self:capability sys_admin;
  )

tunable_policy(`virt_sandbox_use_mknod',
    allow polaris_$1_container_t self:capability mknod;
  )

tunable_policy(`virt_sandbox_use_all_caps',
    allow polaris_$1_container_t self:capability all_capability_perms;
    allow polaris_$1_container_t self:capability2 all_capability2_perms;
  )

tunable_policy(`virt_sandbox_use_netlink',
    allow polaris_$1_container_t self:netlink_socket create_socket_perms;
    allow polaris_$1_container_t self:netlink_tcpdiag_socket create_netlink_socket_perms;
    allow polaris_$1_container_t self:netlink_kobject_uevent_socket create_socket_perms;
    
    logging_dontaudit_send_audit_msgs(polaris_$1_container_t)
  )

allow polaris_$1_container_t virt_lxc_var_run_t:dir list_dir_perms;
allow polaris_$1_container_t virt_lxc_var_run_t:file read_file_perms;

kernel_read_irq_sysctls(polaris_$1_container_t)
kernel_read_messages(polaris_$1_container_t)

dev_read_sysfs(polaris_$1_container_t)
dev_read_mtrr(polaris_$1_container_t)
dev_read_rand(polaris_$1_container_t)
dev_read_urand(polaris_$1_container_t)

files_read_kernel_modules(polaris_$1_container_t)

# Do we actually need these?
fs_mount_cgroup(polaris_$1_container_t)
fs_manage_cgroup_dirs(polaris_$1_container_t)
fs_manage_cgroup_files(polaris_$1_container_t)
# Needed for docker
fs_unmount_xattr_fs(polaris_$1_container_t)

auth_use_nsswitch(polaris_$1_container_t)

optional_policy(`
rpm_read_db(polaris_$1_container_t)
`
)

logging_send_syslog_msg(polaris_$1_container_t)

tunable_policy(`virt_sandbox_use_audit`,

   logging_send_audit_msgs(polaris_$1_container_t)
`
)

userdom_use_user_ptys(polaris_$1_container_t)

optional_policy(`
   # allow vman to kill lxc container process
   # on shutdown where vman destroys container-related
   # stuff after a timeout period
   polaris_vman_kill_process(polaris_$1_container_t)
`
)

# copied from polariscommon.if. If the label is added in
# in permissive map, the below interface will make permissive
# ifelse(permissive_domain(polaris_$1_container_t), polaris_$1_container_t,
`polaris_permissive_domain_setup(polaris_$1_container_t)`
`confined_domain(polaris_$1_container_t), polaris_$1_container_t,`
`polaris_domain_maybe_unconfined(polaris_$1_container_t)`

`)
## Creates types and rules for a basic polaris KVM container process domain.

```template('polaris_kvm_domain_template',
  gen_require(
    attribute virt_domain;
    type svirt_image_t;
  )
)

# for now, things are same as polaris_container_domain_template
polaris_container_domain_template($1)

typeattribute polaris_$1_container_t virt_domain;
# allow {map} of svirt_image_t needed by VWAAS similar to svirt
allow polaris_$1_container_t svirt_image_t:{ file blk_file } map;
')
```

## <summary>
##      Read Sandbox Files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>

```interface('polaris_sandbox_file_read',
  gen_require(
    type svirt_sandbox_file_t;
  )
  read_files_pattern($1, svirt_sandbox_file_t, svirt_sandbox_file_t)
  read_lnk_files_pattern($1, svirt_sandbox_file_t, svirt_sandbox_file_t)
  list_dirs_pattern($1, svirt_sandbox_file_t, svirt_sandbox_file_t)
')
```

## <summary>
##      Read Sandbox Files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>

interface('polaris_sandbox_file_dir_list',
  gen_require(
    type polaris_disk_bootflash_t;
    type polaris_disk_harddisk_t;
    type svirt_sandbox_file_t;
  )
  list_dirs_pattern($1, { svirt_sandbox_file_t polaris_disk_bootflash_t polaris_disk_harddisk_t }, svirt_sandbox_file_t)
  optional_policy(
    gen_require(
      type polaris_iox_alt_hdd_files_t;
    )
    list_dirs_pattern($1, polaris_iox_alt_hdd_files_t, svirt_sandbox_file_t)
  )
)

interface('polaris_sandbox_file_getattr',
  gen_require(
    type polaris_disk_bootflash_t;
    type polaris_disk_harddisk_t;
    type svirt_sandbox_file_t;
  )
  getattr_files_pattern($1, { svirt_sandbox_file_t polaris_disk_bootflash_t polaris_disk_harddisk_t }, svirt_sandbox_file_t)
  optional_policy(
    gen_require(
      type polaris_iox_alt_hdd_files_t;
    )
    getattr_files_pattern($1, polaris_iox_alt_hdd_files_t, svirt_sandbox_file_t)
  )
)
## <summary>
## Normal restricted permission to execute utd (snort) container
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_utd_container',`
    allow $1 self:netlink_generic_socket client_stream_socket_perms;
')

#########################################
## <summary>
## Allow domain transition
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_iox_container_domtrans',`
    gen_require(`
        type polaris_iox_container_t;
        type container_file_t;
    ')
    domain_transition_pattern($1, container_file_t, polaris_iox_container_t)
')

#########################################
## <summary>
## Allow watch on container files
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_iox_container_watch',`
    gen_require(`
        type tmpfs_t;
        type container_file_t;
    ')
    allow $1 container_file_t:{ dir file lnk_file} watch;
allow $1 tmpfs_t:{ dir file lnk_file} watch;
')

########################################
## <summary>
##      Send messages to utdl container unix datagram sockets.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_utdl_container_dgram_send',
   gen_require(
      type polaris_utdl_container_t;
   ')
   allow $1 polaris_utdl_container_t:unix_dgram_socket sendto;
')

########################################
## <summary>
##      Allow unix stream socket connect
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_waas_stream_connect',
   gen_require(
      type polaris_waas_container_t;
   ')
   allow $1 polaris_waas_container_t:unix_stream_socket connectto;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscontainer.if
No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky
# # Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
/tmpA.flashlock -- gen_context(system_u:object_r:polaris_flashlib_lock_t,s0)
/tmp/flashdev.log -- gen_context(system_u:object_r:polaris_flashlib_log_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisflashlib.fc
No license file was found, but licenses were detected in source scan.

#  # Oct 2020, Xin Xiang
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

# dma map devices
/dev/dmammap -c gen_context(system_u:object_r:polaris_dmammap_device_t,s0)

# /dev/dma_nw is introduced by Nightwatch switch module on ESG routing platform
/dev/dma_nw -c gen_context(system_u:object_r:polaris_dmammap_device_t,s0)

# dplr interrupt devices
/dev/dplr_intrpt -c gen_context(system_u:object_r:polaris_dplr_device_t,s0)

# /dev/dplr_nw is introduced by Nightwatch switch module on ESG routing platform
/dev/dplr_nw -c gen_context(system_u:object_r:polaris_dplr_device_t,s0)

# e.g., /dev/msi/Slot8/Doppler0/Group0
/dev/msi/Slot[0-9]*/Doppler[0-9]* -c gen_context(system_u:object_r:polaris_dplr_device_t,s0)
/dev/msi/Slot[0-9]*/Doppler[0-9]*/(.*? -c gen_context(system_u:object_r:polaris_dplr_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdoppler.fc
No license file was found, but licenses were detected in source scan.

#  # March 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris ncd Policy Rules.</summary>

--------------------------------------------
## <summary>
## Make the specified domain able to manage tmp file created by
## ncd.sh like /tmp/etc/ncd_work_dir
interface('polaris_ncd_tmp_manage',
    gen_require('typet polaris_ncd_tmp_t;

    manage_dirs_pattern($1, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
    manage_files_pattern($1, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
    manage_lnk_files_pattern($1, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
    ') )

interface('polaris_ncd_tmp_read',
    gen_require('typet polaris_ncd_tmp_t;

    list_dirs_pattern($1, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
    read_files_pattern($1, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
    read_lnk_files_pattern($1, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
    ') )

interface('polaris_ncd_etc_read',
    gen_require('typet polaris_ncd_tmp_t;

    list_dirs_pattern($1, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
    read_files_pattern($1, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
    read_lnk_files_pattern($1, polaris_ncd_tmp_t, polaris_ncd_tmp_t)
    ') )
gen_require(

type polaris_nccd etc_t;
')
read_files_pattern($1, polaris_nccd etc_t, polaris_nccd etc_t)
')

########################################
## <summary>
##      Execute a domain transition to run ncd.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed to transition.
##      </summary>
## </param>
#
# interface('polaris_nccd_domtrans',
          gen_require(
              type polaris_nccd_t, polaris_nccd exec_t;
            )
          domtrans_pattern($1, polaris_nccd_exec_t, polaris_nccd_t)
            )

########################################
## <summary>
##      Execute a domain transition to run unifiedfs_helper.sh.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed to transition.
##      </summary>
## </param>
#
# interface('polaris_ufs_helper_domtrans',
          gen_require(
              type polaris_ufs_helper_t, polaris_ufs_helper_exec_t;
            )
          domtrans_pattern($1, polaris_ufs_helper_exec_t, polaris_ufs_helper_t)
            )

########################################
## <summary>
##      Run rpcinfo in a domain, grant proper network permissions.
## </summary>
## <param name="domain">
##      <summary>


## Domain allowed to transition.
## </summary>
## </param>
#
interface(`polaris_ncd_rpcinfo_net`,
  corenet_tcp_bound_generic_node($1)
  corenet_tcp_bound_all_rpc_ports($1)
  corenet_tcp_connect_all_rpc_ports($1)
  corenet_tcp_connect_unreserved_ports($1)
  allow $1 self:tcp_socket { bind connect create getattr getopt setopt };

  corenet_udp_bound_generic_node($1)
  corenet_udp_bound_all_rpc_ports($1)
  allow $1 self:udp_socket { bind create getattr getopt setopt };

  corenet_tcp_connect_portmap_port($1)

ifndef(`passport_platform`,
  # invoked rpcinfo which connects to port 2049 (nfs server)
  # port is incorrectly labelled due to falling in range of TDL define
  # of IOSd gold ripc service
  polaris_ripc_iosd_gold_connect($1)
')

ifndef(`starfleet_platform`,
  # invoked rpcinfo which connects to port 2049 (nfs server)
  # port is incorrectly labelled due to falling in range of TDL define
  # of IOSd gold ripc service
  polaris_ripc_iosd_gold_connect($1)
')

ifndef(`bigbang_platform`,
  #nfs server port 2049 is labelled as ripc-emd_ui_port_t based on TDL define
  polaris_ripc_emd_ui_connect($1)
')

')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisncd.if
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 463

```c
policy_module(polariscppcdm, 1.0);

gen_require(' type polaris_cpp_cdm_t;
')

polaris_btrace_data_manager(polaris_cpp_cdm_t)
polaris_crft_data_manager(polaris_cpp_cdm_t)
polaris_chasfs_manager(polaris_cpp_cdm_t)
polaris_tdlresolve_read(polaris_cpp_cdm_t)
polaris_tdlldb_list_dirs(polaris_cpp_cdm_t)
polaris_cpld_read(polaris_cpp_cdm_t)
polaris_flashlib_read(polaris_cpp_cdm_t)

polaris_cpp_tmp_files_use(polaris_cpp_cdm_t)
# works with /dev/cpp_dev_info and /dev/cpp_kipc
polaris_cpp_dev_use(polaris_cpp_cdm_t)
polaris_cpp_tmpfs_ifdev_rw(polaris_cpp_cdm_t)

polaris_icc_broken_relocations(polaris_cpp_cdm_t)

allow polaris_cpp_cdm_t self:capability net_admin;

# get attributes of /dev/shm from glibc where_is_shmfs function
fs_getattr_tmpfs(polaris_cpp_cdm_t)

polaris_cpp_cavium_sdk_ipc_use(polaris_cpp_cdm_t)

# LOOK AT ME: raw memory access in cavium vendor SDK
# related to octeon driver (BUG CSCvh58515)
ifdef('crankshaft_family,'
  polaris_dev_mem_use(polaris_cpp_cdm_t)
')

# overlord/neptune access /sys/bus/pci/devices/0000:01:00.0/resource0
# when initializing the CPP DMAP library.
optional_policy(' polaris_cpp_cavium_dma_map(polaris_cpp_cdm_t)
')

optional_policy(' polaris_cbdma_dev_use(polaris_cpp_cdm_t)
')

polaris_cpld_dev_use(polaris_cpp_cdm_t)

Found in path(s):
```
No license file was found, but licenses were detected in source scan.

# August 2017, Victor Kamensky
# # Copyright (c) 2017-2019 by Cisco Systems, Inc.
# # All rights reserved
#
## <summary>Polaris bsm Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbsm.if
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
# # Copyright (c) 2016-2019 by Cisco Systems, Inc.
# # All rights reserved
#

/obfl -l gen_context(system_u:object_r:polaris_obfl_data_t,s0)
/obfl0 -l gen_context(system_u:object_r:polaris_obfl_data_t,s0)
/tmp/obfl(/.*)? gen_context(system_u:object_r:polaris_obfl_data_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisobfl.fc
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
# # Copyright (c) 2016-2019 by Cisco Systems, Inc.
# # All rights reserved
#
/dev/cpld -c gen_context(system_u:object_r:polaris_cpld_device_t,s0)
/dev/cpld-ha -c gen_context(system_u:object_r:polaris_cpld_device_t,s0)
/dev/cpld-misc-int -c gen_context(system_u:object_r:polaris_cpld_device_t,s0)
/dev/cpld-virtual-fp -c gen_context(system_u:object_r:polaris_cpld_device_t,s0)
/dev/cpld-virtual-cc -c gen_context(system_u:object_r:polaris_cpld_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscpld.fc
No license file was found, but licenses were detected in source scan.

dnl
dnl January 2021, Vaibhav Lade
dnl
dnl Copyright (c) 2021 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl VPCGW Platform Max Bay Limits
max_bay_map_set(\texttt{rp}', `per\_bay', 0)
max_bay_map_set(\texttt{cc}', `per\_bay', 0)
max_bay_map_set(\texttt{fp}', `per\_bay', 0)

dnl in elastic scope each process has its own value
max_elastic_map_set(\texttt{rp}', `elastic', BPROC\_UEMGR, 7)
max_elastic_map_set(\texttt{cc}', `elastic', BPROC\_UEMGR, 7)
max_elastic_map_set(\texttt{fp}', `elastic', BPROC\_UEMGR, 7)

max_elastic_ripc_map_set(\texttt{rp}', `elastic', BPROC\_UEMGR, 7)
max_elastic_ripc_map_set(\texttt{cc}', `elastic', BPROC\_UEMGR, 7)
max_elastic_ripc_map_set(\texttt{fp}', `elastic', BPROC\_UEMGR, 7)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/vpcgwmaps.m4
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

##<summary>Polaris gsd_rp Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisgsdrp.if
No license file was found, but licenses were detected in source scan.

#
# January 2018, Manohar Hungund
#
# Copyright (c) 2018-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy\_module(polarisocstdplogrp, 1.0);
gen_require("
    type polaris_oct_dp_log_rp_t;
"
)

polaris_btrace_data_manage(polaris_oct_dp_log_rp_t)
polaris_chasfs_manage(polaris_oct_dp_log_rp_t)
polaris_tdlresolve_read(polaris_oct_dp_log_rp_t)
polaris_tldldb_list_dirs(polaris_oct_dp_log_rp_t)
polaris_cpld_read(polaris_oct_dp_log_rp_t)
polaris_flashlib_read(polaris_oct_dp_log_rp_t)
polaris_ripc_sman_ui_serv_connect(polaris_oct_dp_log_rp_t)

# direct access to serial TTY devices
# (octeon_dp_logger needs to acces /dev/ttyDASH7)
term_open_unallocated_ttys(polaris_oct_dp_log_rp_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisoctdplogrp.te
No license file was found, but licenses were detected in source scan.

#
# June 2020, Manu Roy
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris iotswitch Policy Rules.</summary>
#
#
###############################
## <summary>
## Work (read, write, ioctl) with /dev/petra-fpga device
## </summary>
## <param name="domain">
## Domain allowed access.
## <//summary>
## </param>
#
interface('polaris_iots_fpga_dev_use',
    gen_require(
        'type device_t;
        type polaris_iots_fpga_device_t;
    ')
    write_chr_files_pattern($1, device_t, polaris_iots_fpga_device_t)
    read_chr_files_pattern($1, device_t, polaris_iots_fpga_device_t)
allow $1 polaris_iots_fpga_device_t:chr_file map;
'}

#########################################################################
## <summary>
## Work (read, write, ioctl) with /dev/tm
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_iots_tm_dev_use',
    gen_require('    
        type device_t;
        type polaris_iots_tm_device_t;
    ')
    write_chr_files_pattern($1, device_t, polaris_iots_tm_device_t)
    read_chr_files_pattern($1, device_t, polaris_iots_tm_device_t)
    allow $1 polaris_iots_tm_device_t:chr_file map;
')

#########################################################################
## <summary>
## Allow access to semaphore with type polaris_cm_rp_t
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_cm_rp_sem_use',
    gen_require('    
        type polaris_cm_rp_t;
    ')
    allow $1 polaris_cm_rp_t:sem rw_sem_perms;
')

#########################################################################
## <summary>
## Allow access to semaphore with type polaris_iots_mvDmaDrv_device_t
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
interface(`polaris_mvDmaDrv_dev_use',`
    gen_require(`
        type device_t;
        type polaris_iots_mvDmaDrv_device_t;
    `)
    write_chr_files_pattern($1, device_t, polaris_iots_mvDmaDrv_device_t)
    read_chr_files_pattern($1, device_t, polaris_iots_mvDmaDrv_device_t)
    allow $1 polaris_iots_mvDmaDrv_device_t:chr_file map;
`)

########################################
## <summary>
##      Allow access to semaphore with type polaris_iots_mvIntDrv_device_t
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_mvIntDrv_dev_use',`
    gen_require(`
        type device_t;
        type polaris_iots_mvIntDrv_device_t;
    `)
    write_chr_files_pattern($1, device_t, polaris_iots_mvIntDrv_device_t)
    read_chr_files_pattern($1, device_t, polaris_iots_mvIntDrv_device_t)
`)

########################################
## <summary>
##      Manage iots swipedrive files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_swipedrive_file_manage',`
    gen_require(`
        type polaris_iots_swipedrive_file_t;
    `)
    manage_files_pattern($1, polaris_iots_swipedrive_file_t, polaris_iots_swipedrive_file_t)
    manage_lnk_files_pattern($1, polaris_iots_swipedrive_file_t, polaris_iots_swipedrive_file_t)
    manage_dirs_pattern($1, polaris_iots_swipedrive_file_t, polaris_iots_swipedrive_file_t)
### <summary>
### Get the attributes of an swipe drive filesystem.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>

`interface('polaris_getattr_swipedrive',
    gen_require(
        type polaris_iots_swipedrive_file_t;
    )

    allow $1 polaris_iots_swipedrive_file_t:filesystem getattr;
')

### <summary>
### Allow access to semaphore with type polaris_iots_led_device_t
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>

`interface('polaris_led_dev_use',
    gen_require(
        type device_t;
        type polaris_iots_led_device_t;
    )

    write_chr_files_pattern($1, device_t, polaris_iots_led_device_t)
    read_chr_files_pattern($1, device_t, polaris_iots_led_device_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisiotswitch.if
No license file was found, but licenses were detected in source scan.

#  
# December 2019, Victor Kamensky
#  
# Copyright (c) 2019 by Cisco Systems, Inc.
## <summary>Polaris fnf_agg Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfnfagg.if

No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris TDLResolve Policy Rules.</summary>

# TDLresolve policy
### <summary>
### Manage tdlresolve files
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
### </summary>
### <rolebase/>
#
interface('polaris_tdlresolve_manage',
    gen_require('type polaris_tdlresolve_t;
    manage_files_pattern($1, polaris_tdlresolve_t, polaris_tdlresolve_t)
    manage_lnk_files_pattern($1, polaris_tdlresolve_t, polaris_tdlresolve_t)
    manage_dirs_pattern($1, polaris_tdlresolve_t, polaris_tdlresolve_t)
    allow $1 polaris_tdlresolve_t:file map;
    gen_require('type polaris_global_service_t;
    manage_files_pattern($1, polaris_global_service_t, polaris_global_service_t)
    allow $1 polaris_global_service_t:file map;
    ')

### <summary>
### Watch tdlresolve directories
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
### </summary>
### <rolebase/>
#
interface('polaris_tdlresolve_watch',
    gen_require('type polaris_tdlresolve_t;
    allow $1 polaris_tdlresolve_t:dir watch;
    ')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristdlresolve.if
No license file was found, but licenses were detected in source scan.
/# September 2018, Anubha Balani
/#
/# Copyright (c) 2018-2019 by Cisco Systems, Inc.
/# All rights reserved
/#
/
/tmp/maroon_stats -d	gen_context(system_u:object_r:polaris_maroon_base_t,s0)
# zram devices
/dev/zram[0-9]*              -b gen_context(system_u:object_r:polaris_zram_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismemory.fc
No license file was found, but licenses were detected in source scan.

/#
/# July 2020, Victor Kamensky
/#
/# Copyright (c) 2020 by Cisco Systems, Inc.
/# All rights reserved
/#

policy_module(polarishtx, 1.0);

gen_require(
    type polaris_htx_t;
')
polaris_chasfs_read(polaris_htx_t)
polaris_cpld_read(polaris_htx_t)
polaris_tdlresolve_read(polaris_htx_t)
polaris_ripc_sman_ui_serv_connect(polaris_htx_t)
logging_send_syslog_msg(polaris_htx_t)

# LOOK AT ME uses shell and mkdir just to create /tmp/HTX-IOX directory
# should be single mkdir system call, in fact even this may not
# be needed since it is created by system-tempfiles
corecmd_exec_shell(polaris_htx_t)
corecmd_exec_bin(polaris_htx_t)
auth_use_nsswitch(polaris_htx_t)

# call posix_sysconf that opens /sys/devices/system/cpu/online
dev_read_sysfs(polaris_htx_t)

# create threads
allow polaris_htx_t self:process setsched;
allow polaris_htx_t self:capability sys_nice;
optional_policy(
    polaris_qfp_dgram_send(polaris_htx_t)
)

# vconfd_load_shared_schemas
polaris_conf_shared_schema_read(polaris_htx_t)

type polaris_htxiox_tmp_t;
files_tmp_file(polaris_htxiox_tmp_t)
polaris_htxiox_tmp_manage(polaris_htx_t)

# htx logs files like /tmp/nwaas_log_sslproxy.log
type polaris_htx_tmp_t;
files_tmp_file(polaris_htx_tmp_t)
files_tmp_filetrans(polaris_htx_t, polaris_htx_tmp_t, file)
manage_files_pattern(polaris_htx_t, polaris_htx_tmp_t, polaris_htx_tmp_t)

# handle /dev/shm/tcpproxdebug shm
type polaris_htx_tmpfss_t;
files_tmpfs_file(polaris_htx_tmpfss_t)
fs_tmpfs_filetrans(polaris_htx_t, polaris_htx_tmpfss_t, file)
fs_getattr_tmpfs(polaris_htx_t)
gen_require(
    type tmpfs_t;
)
manage_files_pattern(polaris_htx_t, tmpfs_t, polaris_htx_tmpfss_t)
allow polaris_htx_t polaris_htx_tmpfss_t:file map;

# work with /tmp/memif
optional_policy(
    polaris_qfp_memif_manage(polaris_htx_t)
)

# sppi_memif
type polaris_sppi_memif_device_t;
dev_node(polaris_sppi_memif_device_t)
polaris_sppi_memif_dev_use(polaris_htx_t)

# packet_socket uinet_if_sppi_channel_init
allow polaris_htx_t self:packet_socket { create_socket_perms recv_msg send msg};
allow polaris_htx_t self:capability net_raw;

# read and write /bootflash/cacert-ssl.pem
polaris_bootflash_manage(polaris_htx_t)

Found in path(s):
No license file was found, but licenses were detected in source scan.

# March 2017. Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris nginx Policy Rules.</summary>

#################################################################
## <summary>
##      Allow domain to be started by nginx with
##      transition into specific service domain.
## </summary>
## <param name="domain">
##      <summary>
##      Type to be used to run utility.
##      </summary>
## </param>
interface(`polaris_nginx_exec_domain',
gen_require(`
type polaris_nginx_t;
')

domtrans_pattern(polaris_nginx_t, $2, $1)
')

#################################################################
## <summary>
##      Execute mcp_trace_filter script in its own domain.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed to transition.
##      </summary>
## </param>
# interface(`polaris_trace_filter_domtrans',
gen_require(`
type polaris_trace_filter_t, polaris_trace_filter_exec_t;
## <summary>
##      Execute file transfer client in its own domain.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed to transition.
##      </summary>
## </param>
#
interface(`polaris_file_transfer_client_domtrans',`
   gen_require(`
      type polaris_file_transfer_client_t, polaris_file_transfer_client_exec_t;
   ')
)

   domtrans_pattern($1, polaris_file_transfer_client_exec_t, polaris_file_transfer_client_t)
')

## <summary>
##      Allow others to perform pipe operations on nginx files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed to perform the operation
##      </summary>
## </param>
#
interface(`polaris_nginx_manage_fifo_files',`
   gen_require(`
      type polaris_nginx_t;
      type $1;
   ')
)

   manage_fifo_files_pattern($1, polaris_nginx_t, polaris_nginx_t)
')

## <summary>
##      Allow the specified domain to manage polaris_nginx_tmp_t files
## </summary>
## <param name="domain">
##      <summary>
##      </summary>
## </param>
## Domain allowed access.
##     </summary>
##     </param>
#
interface('polaris_nginx_tmp_manage',
    gen_require(
        type polaris_nginx_tmp_t;
    )

    manage_files_pattern($1, polaris_nginx_tmp_t, polaris_nginx_tmp_t)
    files_tmp_filetrans($1, polaris_nginx_tmp_t, file, "ca.cert")
')

#######################################
## <summary>
##      Manage polaris_fts_client_tmp_t in /tmp/fts_client.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
interface('polaris_fts_client_tmp_manage',
    gen_require(
        type polaris_fts_client_tmp_t;
    )

    manage_files_pattern($1, polaris_fts_client_tmp_t, polaris_fts_client_tmp_t)
    manage_dirs_pattern($1, polaris_fts_client_tmp_t, polaris_fts_client_tmp_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisnginx.if
No license file was found, but licenses were detected in source scan.

# # February 2020, Victor Kamensky
# # Copyright (c) 2020 by Cisco Systems, Inc.
# # All rights reserved
# #
## <summary>Polaris cedgetanman Policy Rules.</summary>

########################################################################
## <summary>
##      Read cedge tanman files and fifo_file. I.e
## /tmp/tan/tan_evt_fifo
## <summary>
## <param name="domain">
##  Domain allowed access.
## </summary>
## </param>
#
# interface('polaris_cedge_tanman_tmp_manage',
  gen_require(
    type polaris_cedge_tanman_tmp_t;
  )
read_files_pattern($1, polaris_cedge_tanman_tmp_t, polaris_cedge_tanman_tmp_t)
read_fifo_files_pattern($1, polaris_cedge_tanman_tmp_t, polaris_cedge_tanman_tmp_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscedgetanman.if
No license file was found, but licenses were detected in source scan.

#
# November 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
#
# polarisgnmib file contexts place holder
/flash1/gNOI_iosxe_*   gen_context(system_u:object_r:polaris_gnmib_gnoi_images_t,s0)
/bootflash/gNOI_iosxe_*   gen_context(system_u:object_r:polaris_gnmib_gnoi_images_t,s0)
/mnt/sd3/user/gNOI_iosxe_*   gen_context(system_u:object_r:polaris_gnmib_gnoi_images_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisgnmib.fc
No license file was found, but licenses were detected in source scan.

#
# November 2020, Christine Hwang
#
# Copyright (c) 2017-2019, 2021 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris bbu Policy Rules.</summary>

##################################################################
## <summary>
## Work (read, write, ioctl) with /dev/ttyS2
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_bbu_dev_use',
    gen_require(
        type device_t;
        type polaris_bbu_device_t;
    ')
write_chr_files_pattern($1, device_t, polaris_bbu_device_t)
read_chr_files_pattern($1, device_t, polaris_bbu_device_t)
allow $1 polaris_bbu_device_t:chr_file map;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbbu.if
No license file was found, but licenses were detected in source scan.
#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
### <summary>Polaris polarisrollbacktimer Policy Rules.</summary>

#######################################
## <summary>
##      Manage rbtimer file on bootflash (i.e /bootflash/.rollback_timer)
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_rbtimer_bootflash_manage',
    gen_require(
        type polaris_disk_bootflash_t;
        type polaris_rbtimer_bootflash_t;
    ')
manage_dirs_pattern($1, polaris_disk_bootflash_t, polaris_rbtimer_bootflash_t)
manage_files_pattern($1, polaris_rbtimer_bootflash_t, polaris_rbtimer_bootflash_t)
filetrans_pattern($1, polaris_disk_bootflash_t, polaris_rbtimer_bootflash_t, dir, ".rollback_timer")
')
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrollbacktimer.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris keyman Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariskeyman.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris polarisoom Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisoom.if
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

/usr/binos/conf/install_engine.sh -- gen_context(system_u:object_r:polaris_install_engine_exec_t:s0)
/usr/binos/conf/install_assist.sh -- gen_context(system_u:object_r:polaris_install_engine_exec_t:s0)
/usr/binos/conf/install_helper.sh -- gen_context(system_u:object_r:polaris_install_engine_exec_t:s0)
/usr/binos/conf/sw_pload_svc.sh -- gen_context(system_u:object_r:polaris_install_engine_exec_t:s0)
/usr/binos/conf/provision.sh -- gen_context(system_u:object_r:polaris_install_engine_exec_t:s0)
/usr/binos/conf/issu_helper.sh -- gen_context(system_u:object_r:polaris_install_engine_exec_t:s0)
/issu/issu_check.sh -- gen_context(system_u:object_r:polaris_install_engine_exec_t:s0)
/usr/binos/conf/packtool.sh -- gen_context(system_u:object_r:polaris_install_engine_exec_t:s0)
/usr/binos/conf/install_boottime.sh -- gen_context(system_u:object_r:polaris_install_engine_exec_t:s0)
The following labels are specific to hot patch a SMUs shared objects
# using .so files). For cold patch files, the patch is subset of a package
# (it has the same structure) and therefore regular labeling rules will
# be in effect.
#
# The SMU hot patch directory hierarchy should look as follows:
# /RP.<ARCH>/<process>/patch(s)
# /FP.<ARCH>/<process>/patch(s)
# /CC.<ARCH>/<process>/patch(s)
#
/[^/]*[^/]+(/[.]*)?        gen_context(system_u:object_r:lib_t,s0)
/[^/]*[^/]+(/[.]*)?        gen_context(system_u:object_r:lib_t,s0)
/[^/]*[^/]+(/[.]*)?        gen_context(system_u:object_r:lib_t,s0)

# bundle image/subpkg labeling
/packages.conf                  -- gen_context(system_u:object_r:polaris_packages_conf_t,s0)
/.pkginfo                      -- gen_context(system_u:object_r:polaris_sw_data_t,s0)
/([^/]+).pkg                      -- gen_context(system_u:object_r:polaris_sw_data_t,s0)
/tmp/pkg_cs_debug(/.*)? gen_context(system_u:object_r:polaris_pkg_cs_debug_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisinstall.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisepcwsliaison, 1.0);

gen_require(
    type polaris_epc_ws_liaison_t;
')

polaris_btrace_data_manage(polaris_epc_ws_liaison_t)
polaris_crft_data_manage(polaris_epc_ws_liaison_t)
polaris_chasfs_manage(polaris_epc_ws_liaison_t)
polaris_tdlresolve_read(polaris_epc_ws_liaison_t)
polaris_tdlldb_list_dirs(polaris_epc_ws_liaison_t)
polaris_cpld_read(polaris_epc_ws_liaison_t)
polaris_flashlib_read(polaris_epc_ws_liaison_t)
polaris_ripc_sman_ui_serv_connect(polaris_epc_ws_liaison_t)

allow polaris_epc_ws_liaison_t self:capability { dac_override };

# tshark invoked by epc_ws_liaison needs to map /etc/passwd file.
auth_map_passwd(polaris_epc_ws_liaison_t)

# access to execute /sbin/tshark
corecmd_exec_bin(polaris_epc_ws_liaison_t)

# dumpcap needs access to net dir in sysfs
dev_read_sysfs(polaris_epc_ws_liaison_t)

# comm="dumpcap" kmod="net-pf-16-proto-12"
kernel_dontaudit_request_load_module(polaris_epc_ws_liaison_t)

# write pcap files to /bootflash
polaris_bootflash_manage(polaris_epc_ws_liaison_t)

# epc_ws_liaison and ngwc-fed pipe interaction
polaris_fed_shm_file_read(polaris_epc_ws_liaison_t)

# for pluggable FS, allow epc liaison to access files on them.
polaris_removable_manage(polaris_epc_ws_liaison_t)

# tshark and dumpcap runtime requirements
allow polaris_epc_ws_liaison_t self:capability { net_raw setgid setuid };
allow polaris_epc_ws_liaison_t self:netlink_netfilter_socket create;
allow polaris_epc_ws_liaison_t self:netlink_route_socket { bind create getattr nlmsg_read };
allow polaris_epc_ws_liaison_t self:packet_socket { bind create getopt ioctl map setopt };
allow polaris_epc_ws_liaison_t self:process setcap;
allow polaris_epc_ws_liaison_t self:unix_dgram_socket { create ioctl };
allow polaris_epc_ws_liaison_t self:udp_socket { create ioctl };

# /tmp/lsn.log and /tmp/epc_ws (WS_TMP_FOLDER)
type polaris_epc_ws_liaison_tmp_t;
files_tmp_file(polaris_epc_ws_liaison_tmp_t)
files_tmp_filetrans(polaris_epc_ws_liaison_t, polaris_epc_ws_liaison_tmp_t, { file dir })
manage_dirs_pattern(polaris_epc_ws_liaison_t, polaris_epc_ws_liaison_tmp_t, polaris_epc_ws_liaison_tmp_t)
manage_files_pattern(polaris_epc_ws_liaison_t, polaris_epc_ws_liaison_tmp_t, polaris_epc_ws_liaison_tmp_t)
manage_fifo_files_pattern(polaris_epc_ws_liaison_t, polaris_epc_ws_liaison_tmp_t, polaris_epc_ws_liaison_tmp_t)

@end

# CLI: show platform software wireshark show
polaris_utility_domain_template(wireshark_show)
polaris_bexecute_domain(polaris_wireshark_show_t, polaris_wireshark_show_exec_t)
polaris_chasfs_manage(polaris_wireshark_show_t)
corecmd_exec_bin(polaris_wireshark_show_t)

# map /etc/passwd
auth_map_passwd(polaris_wireshark_show_t)

# open, read, getattr pcap files
polaris_bootflash_read(polaris_wireshark_show_t)

# write into pipe that smand created for us with popen
polaris_smand_use_fifo(polaris_wireshark_show_t)

corecmd_exec_shell(polaris_wireshark_show_t)

# sys file /sys/devices/system/cpu/online
dev_read_sysfs(polaris_wireshark_show_t)

# tshark and dumpcap runtime requirements
allow polaris_wireshark_show_t self:capability { setgid setuid net_admin }
allow polaris_wireshark_show_t self:netlink_netfilter_socket create;
allow polaris_wireshark_show_t self:netlink_route_socket { bind create getattr nlmsg_read }
allow polaris_wireshark_show_t self:process setcap;
allow polaris_wireshark_show_t self:udp_socket { create ioctl }
allow polaris_wireshark_show_t self:unix_dgram_socket { create ioctl }

#dumpcap needs access "/tmp/epc_ws/wif_to_ts_pipe" fifo file
polaris_epc_ws_liaison_fifo_read(polaris_wireshark_show_t)

# comm="dumpcap" kmod="net-pf-16proto-12"
kernel_request_load_module(polaris_wireshark_show_t)

# /tmp/*.pcapng
type polaris_wireshark_show_tmp_t;
files_tmp_file(polaris_wireshark_show_tmp_t)
files_tmp_filetrans(polaris_wireshark_show_t, polaris_wireshark_show_tmp_t, file)
polaris_wireshark_show_tmp_manage(polaris_wireshark_show_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisepcwsliaison.te
No license file was found, but licenses were detected in source scan.

#
# June 2020 , Manu Roy
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisiotswitch, 1.0);

# petra fpga device (/dev/petra-fpga)
type polaris_iots_fpga_device_t;
dev_node(polaris_iots_fpga_device_t)

# petra DMA ASIC driver (/dev/mvDmaDrv)
type polaris_iots_mvDmaDrv_device_t;
dev_node(polaris_iots_mvDmaDrv_device_t)

# petra Interrupt Asic driver (/dev/mvIntDrv)
type polaris_iots_mvIntDrv_device_t;
dev_node(polaris_iots_mvIntDrv_device_t)

# petra tm device (/dev/tm)
type polaris_iots_tm_device_t;
dev_node(polaris_iots_tm_device_t)

# petra tm device (/dev/mmcblk1p1)
type polaris_iots_swipedrive_device_t;
dev_node(polaris_iots_swipedrive_device_t)

type polaris_iots_swipedrive_file_t;
files_type(polaris_iots_swipedrive_file_t)
dev_associate(polaris_iots_swipedrive_file_t)

# LED device (/dev/spidev0.0)
type polaris_iots_led_device_t;
dev_node(polaris_iots_led_device_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisiotswitch.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
### <summary>Polaris psd Policy Rules.</summary>

############################################################
### <summary>
### Read polaris_restconf_t files, effectively files
### under /tmp/restconf
### </summary>
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
#
interface('polaris_restconf_read',
    gen_require(
        type polaris_restconf_t;
    )
    read_files_pattern($1, polaris_restconf_t, polaris_restconf_t)
    read_lnk_files_pattern($1, polaris_restconf_t, polaris_restconf_t)
    list_dirs_pattern($1, polaris_restconf_t, polaris_restconf_t)
)

########################################
## <summary>
##      Manage polaris_restconf_t files, effectively files
## under /tmp/restconf
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_restconf_manage',
    gen_require(
        type polaris_restconf_t;
    )
    manage_files_pattern($1, polaris_restconf_t, polaris_restconf_t)
    manage_lnk_files_pattern($1, polaris_restconf_t, polaris_restconf_t)
    manage_dirs_pattern($1, polaris_restconf_t, polaris_restconf_t)
)

########################################
## <summary>
##      Manage polaris_ncsshd_keys_t files, effectively files
## under /tmp/.ncsshd_authorized_keys
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_ncsshd_keys_manage',
    gen_require(
        type polaris_ncsshd_keys_t;
    )
    manage_files_pattern($1, polaris_ncsshd_keys_t, polaris_ncsshd_keys_t)
    manage_lnk_files_pattern($1, polaris_ncsshd_keys_t, polaris_ncsshd_keys_t)
    manage_dirs_pattern($1, polaris_ncsshd_keys_t, polaris_ncsshd_keys_t)
)
# Read polaris_psd_tmp_t files, effectively access /tmp/dmi.ds_config created by psd and read by confd startup

```c
interface("polaris_psd_tmp_read",
    gen_require(
        type polaris_psd_tmp_t;
    )
    read_files_pattern($1, polaris_psd_tmp_t, polaris_psd_tmp_t)
)
```

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispsd.if

No license file was found, but licenses were detected in source scan.

---

# March 2017, Victor Kamensky

# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved

```c
define("polaris_process_aux_full",
polaris_process_domain_template($1)
"
)
```

define("polaris_process_aux",
```
ifelse(process_type_map($1), "," , "polaris_process_aux_full($1)"
)
process_type_map_set($1, 1)
"

define('polaris_process',
"polaris_process_aux(process_stem($1))"
"
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_process_te.m4
No license file was found, but licenses were detected in source scan.

# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polarisdmincsshdmgmt, 1.0);

gen_require("
   type polaris_dmi_ncsshd_mgmt_t;
"
)  
polaris_btrace_data_manage(polaris_dmi_ncsshd_mgmt_t)
polaris_chasfs_manage(polaris_dmi_ncsshd_mgmt_t)
polaris_tdlresolve_read(polaris_dmi_ncsshd_mgmt_t)
polaris_tdldb_list_dirs(polaris_dmi_ncsshd_mgmt_t)
polaris_flashlib_read(polaris_dmi_ncsshd_mgmt_t)
corenet_tcp_bind_generic_node(polaris_dmi_ncsshd_mgmt_t)
allow polaris_dmi_ncsshd_mgmt_t self:tcp_socket { getattr getopt setopt bind create listen accept connect read write };
allow polaris_dmi_ncsshd_mgmt_t self:udp_socket { getattr create connect read write };
allow polaris_dmi_ncsshd_mgmt_t self:cap_users { sys_admin net_bind_service };

type polaris_dmi_ncsshd_mgmt_var_run_t;
files_pid_file(polaris_dmi_ncsshd_mgmt_var_run_t)
manage_dirs_pattern(polaris_dmi_ncsshd_mgmt_t, polaris_dmi_ncsshd_mgmt_var_run_t, polaris_dmi_ncsshd_mgmt_var_run_t)
manage_files_pattern(polaris_dmi_ncsshd_mgmt_t, polaris_dmi_ncsshd_mgmt_var_run_t, polaris_dmi_ncsshd_mgmt_var_run_t)
files_pid_filetrans(polaris_dmi_ncsshd_mgmt_t, polaris_dmi_ncsshd_mgmt_var_run_t, { file dir })

# access /var/log/lastlog, /var/log/btmp

type polaris_dmi_ncsshd_mgmt_var_log_t;
logging_log_file(polaris_dmi_ncsshd_mgmt_var_log_t)
manage_files_pattern(polaris_dmi_ncsshd_mgmt_t, polaris_dmi_ncsshd_mgmt_var_log_t, polaris_dmi_ncsshd_mgmt_var_log_t)
logging_log_filetrans(polaris_dmi_ncsshd_mgmt_t, polaris_dmi_ncsshd_mgmt_var_log_t, file, "lastlog")
logging_log_filetrans(polaris_dmi_ncsshd_mgmt_t, polaris_dmi_ncsshd_mgmt_var_log_t, file, "btmp")

polaris_dmi_ncsshd_fwd_dgram_send(polaris_dmi_ncsshd_mgmt_t)

corenet_tcp_bind_polaris_dmi_ncsshd_mgmt_port(polaris_dmi_ncsshd_mgmt_t)
# ncsshd allows user-defined port with: netconf-yang ssh port <port_no>
corenet_tcp_bind_all_ports(polaris_dmi_ncsshd_mgmt_t)

auth_use_nsswitch(polaris_dmi_ncsshd_mgmt_t)
# assign following capabilities needed by sshd
allow polaris_dmi_ncsshd_mgmt_t self:capability {net_admin setgid sys_resource setuid sys_chroot kill};
allow polaris_dmi_ncsshd_mgmt_t self:process setrlimit;

# ncsshd requests pseudo terminal when netconf session is set up without
# explicitly specifying the subsystem name, such as netconf.
allow polaris_dmi_ncsshd_mgmt_t self:capability {chown fowner fsetid};
term_setattr_generic_ptys(polaris_dmi_ncsshd_mgmt_t)
term_getattr_pty_fs(polaris_dmi_ncsshd_mgmt_t)
term_use_generic_ptys(polaris_dmi_ncsshd_mgmt_t)
term_use_ptmx(polaris_dmi_ncsshd_mgmt_t)

# enable to read cpld file "/sys/devices/platform/cpld/board_vtype"
polaris_cpld_read(polaris_dmi_ncsshd_mgmt_t)
# for sshd needs access network interface resource
allow polaris_dmi_ncsshd_mgmt_t self:netlink_route_socket r_netlink_socket_perms;

# calls socketat server_listen at mgmt/dmi/ncsshd/src/sshd.c
polaris_socketat_nsfs_read(polaris_dmi_ncsshd_mgmt_t)
polaris_lfts_dev_use(polaris_dmi_ncsshd_mgmt_t)

corecmd_exec_bin(polaris_dmi_ncsshd_mgmt_t)

logging_send_syslog_msg(polaris_dmi_ncsshd_mgmt_t)
# TODO : revisit below statement when addressing initrc_exec_t denial
polaris_rmonbifo_trm_read(polaris_dmi_ncsshd_mgmt_t)

# allow access to /tmp/sw/cfg and /tmp/sw/boot
polaris_boot_tmp_read(polaris_dmi_ncsshd_mgmt_t)
polaris_cfg_data_manage(polaris_dmi_ncsshd_mgmt_t)

polaris_dmi_dmiauthd_dgram_send(polaris_dmi_ncsshd_mgmt_t)
corenet_tcp_connect_polaris_netconf_interceptor_port(polaris_dmi_ncsshd_mgmt_t);
# This fixes runin.sh related denials. Refer to auth.c file which invokes bshell.
polaris_bexecute_domtrans(polaris_dmi_ncsshd_mgmt_t);

# This fixes authorized keys access related denials.
polaris_ncsshd_authorized_keys_read(polaris_dmi_ncsshd_mgmt_t);

# This fixes denials related to interceptor files.
polaris_interceptor_manage(polaris_dmi_ncsshd_mgmt_t);

# This fixes denials related to netconf_callhome executable

# This fixes denials related to route, scp, chvrf command executables
# { read open getattr } operations are allowed on route command
# { search open } operations are allowed on scp command
# { read open execute execute_no_trans } operations are allowed on chvrf command
kernel_read_network_state(polaris_dmi_ncsshd_mgmt_t)

optional_policy(
    # allows access to /tmp/xml/Intf dir and files
    polaris_cedge_tmp_manage(polaris_dmi_ncsshd_mgmt_t)
polaris_cedge_xml_tmp_manage(polaris_dmi_ncsshd_mgmt_t)
)

# This fixes denials related to ifconfig executable
# { execute read open execute_no_trans map getattr } operations are allowed
sysnet_domtrans_ifconfig(polaris_dmi_ncsshd_mgmt_t)

# This fixes access denials related to confd checking ncsshd_mgmt proc info
# /proc/<ncsshd pid>/
read_files_pattern(polaris_confd_t, polaris_dmi_ncsshd_mgmt_t, polaris_dmi_ncsshd_mgmt_t)
read_lnk_files_pattern(polaris_confd_t, polaris_dmi_ncsshd_mgmt_t, polaris_dmi_ncsshd_mgmt_t)

# allows access for admin-tech generation from vManage
polaris_admin_tech_data_manage(polaris_dmi_ncsshd_mgmt_t)
polaris_bootflash_manage(polaris_dmi_ncsshd_mgmt_t)

# allow access to polaris_cfg_data_t
polaris_cfg_data_manage(polaris_dmi_ncsshd_mgmt_t)

# allow access to polaris_boot_tmp_t
polaris_boot_tmp_read(polaris_dmi_ncsshd_mgmt_t)

# allow to watch /var/run/netns and list dir
polaris_watch_netns(polaris_dmi_ncsshd_mgmt_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmnssshdmgmt.te
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

### <summary> Polaris polarispman Policy Rules. </summary>

#########################
##    Make the specified program domain accessible from the pman.    ##
</summary>
### <param name="domain">
    The type of the process to transition to.
</param>
### <param name="entrypoint">
    The type of the file used as an entrypoint to this domain.
</param>
#
interface(`polaris_pman_entry',`
    gen_require(`
        type polaris_pman_t;
        type polaris_gdb_t;
    `)
    domtrans_pattern(polaris_pman_t, $2, $1)
domtrans_pattern(polaris_gdb_t, $2, $1)
    allow polaris_gdb_t $1:process { ptrace signal sigstop };
``

### <summary>
##    Execute a domain transition to run pman.    ##
</summary>
### <param name="domain">
    Domain allowed to transition.
</param>
interface('polaris_pman_domtrans',
    gen_require(
        type polaris_pman_t, polaris_pman_exec_t;
    ')
)

domtrans_pattern($1, polaris_pman_exec_t, polaris_pman_t)
')

########################################
## <summary>
##      Read pman temporary files and directories in /tmp.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_pman_read_tmp_files',
    gen_require(
        type polaris_pman_tmp_t;
    ')
)

read_files_pattern($1, polaris_pman_tmp_t, polaris_pman_tmp_t)
list_dirs_pattern($1, polaris_pman_tmp_t, polaris_pman_tmp_t)
')

########################################
## <summary>
##      Manage pman temporary files and directories in /tmp.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_pman_manage_tmp_files',
    gen_require(
        type polaris_pman_tmp_t;
    ')
)

manage_files_pattern($1, polaris_pman_tmp_t, polaris_pman_tmp_t)
manage_dirs_pattern($1, polaris_pman_tmp_t, polaris_pman_tmp_t)
')
### Create an object in the polaris_pman_tmp directories.

#### Summary

- **Domain allowed access.**
- **The object class of the object being created.**
- **The name of the object being created.**

```c
interface('polaris_pman_tmp_filetrans',
gen_require('type polaris_pman_tmp_t
')
files_tmp_filetrans($1, polaris_pman_tmp_t, $2, $3)
')
```

### Check existence (getattr) of pman btrace file (i.e polaris_pman_bt_t)

#### Summary

- **Domain allowed access.**

```c
interface('polaris_pman_bt_getattr',
gen_require('type polaris_pman_bt_t;
type polaris_btrace_base_t;
')
getattr_files_pattern($1, polaris_btrace_base_t, polaris_pman_bt_t)
')
```
## <summary>
## Read and write to pmanlite fifo file, used as
## stdout/stderr.
## </summary>

## <param name="domain">
## Domain allowed access.
## </param>

interface('polaris_use_pman_fifo',
  gen_require(''
  type polaris_pman_t;
  ')
)

allow $1 polaris_pman_t:fifo_file { rw_fifo_file_perms };
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.101/selinux-tar/selinux/polarispman.if

No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariswncmgrd, 1.0);

gen_require(''
    type polaris_wncmgrd_t;
  ')

  polaris_btrace_data_manage(polaris_wncmgrd_t)
polaris_chasfs_manage(polaris_wncmgrd_t)
polaris_tdlresolve_read(polaris_wncmgrd_t)
polaris_tdlldb_list_dirs(polaris_wncmgrd_t)
polaris_cpld_read(polaris_wncmgrd_t)
polaris_lua_read(polaris_wncmgrd_t)
polaris_flashlib_read(polaris_wncmgrd_t)
polaris_ripc_sman_ui_serv_connect(polaris_wncmgrd_t)
polaris_db_tdlldb_dir_use(polaris_wncmgrd_t)

#allow setrlimit
allow polaris_wncmgrd_t self:process setrlimit;
allow polaris_wncmgrd_t self:capability sys_resource;
allow polaris_wncmgrd_t self:capability dac_override;

allow polaris_wncmgrd_t self:tcp_socket { shutdown };

#allow wncmgrd UDP socket operations
allow polaris_wncmgrd_t self:udp_socket { bind getattr setopt };
corenetscalar_udp_bind_generic_node(polaris_wncmgrd_t)

#allow wncmgrd module to do ioctl,open,read,write operations on char file
polaris_lfts_dev_use(polaris_wncmgrd_t)

# it use tcp port 9090 and 9091(polaris_wnc_mgrd_port)
corenetscalar_tcp_bind_polaris_wnc_mgrd_port(polaris_wncmgrd_t)

# For ewlc, wncd and wncmgrd needs access to files under /mnt/images/...these
# are related to AccessPoint images
polaris_odm_clnt2svr_mqipc_create(polaris_wncmgrd_t)
polaris_tdldbpersist_setup(polaris_wncmgrd_t)
polaris_tmp_tdldb_persist_setup(polaris_wncmgrd_t)
logging_send_syslog_msg(polaris_wncmgrd_t)

# bind CAPWAP control and data
corenetscalar_udp_bind_polaris_capwap_ctr_port(polaris_wncmgrd_t)
corenetscalar_udp_bind_polaris_capwap_data_port(polaris_wncmgrd_t)

# wncmgrd accessing NA certificate to push to AP
# type polaris_icap_cert_t;
polaris_pfile_type(polaris_icap_cert_t)

# wncmgrd receives the certificate file from IOSd via IPC
# and writes to /bootflash for ICap feature
# and hence requires access.
gen_require(
  type polaris_icap_cert_t;
)
filetrans_pattern(polaris_wncmgrd_t, polaris_disk_bootflash_t, polaris_icap_cert_t, file, "NACert.pem")
allow polaris_wncmgrd_t polaris_icap_cert_t:file { write create read open getattr unlink }

#allow tcp connection from http for awips file download
#from DNAC
corenet_tcp_connect_http_port(polaris_wncmgrd_t)

#allow read/write/mmap access to awips file
gen_require(
  type polaris_awips_signature_file_t;
')
filetrans_pattern(polaris_wncmgrd_t, polaris_disk_bootflash_t, polaris_awips_signature_file_t, file, "awips.json")
allow polaris_wncmgrd_t polaris_awips_signature_file_t:file { map write create read open getattr unlink }

#allow read access to resolv.conf
sysnet_read_config(polaris_wncmgrd_t)

#ewlc_capwap_dgram_srvr_create_raw_send_socket () creates a socket
#creates sll.sll_family = AF_PACKET;
#sll.sll_ifindex = dgram_io_desc->lfts_ifindex;
#sll.sll_protocol = htons(ETH_P_ALL);

allow polaris_wncmgrd_t self:packet_socket { create_socket_perms setopt }
allow polaris_wncmgrd_t self:rawip_socket { create_socket_perms setopt ioctl }

allow polaris_wncmgrd_t self:capability net_raw;
corenet_raw_bind_generic_node(polaris_wncmgrd_t)

gen_require(
  type port_t;
')
allow polaris_wncmgrd_t port_t:rawip_socket name_bind;

# allow tmp symlinks
fs_read_tmpfs_symlinks(polaris_wncmgrd_t)
# allow tmp file read
polaris_install_tmp_read(polaris_wncmgrd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswncmgrd.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 495
## <summary>Polaris NVRAM Policy Rules.</summary>

# NVRAM policy

### <summary>Manage nvram files (location varies by platform)</summary>
### <param name="domain">
### <summary>Domain allowed access.</summary>
### </param>

interface(`polaris_nvram_manage',
    gen_require(`
    type polaris_nvram_file_t;
    type device_t;
    ')

    manage_blk_files_pattern($1, device_t, polaris_nvram_file_t)
    manage_files_pattern($1, polaris_nvram_file_t, polaris_nvram_file_t)
    manage_link_files_pattern($1, polaris_nvram_file_t, polaris_nvram_file_t)
    ')

### <summary>Read nvram files (location varies by platform)</summary>
### <param name="domain">
### <summary>Domain allowed access.</summary>
### </param>

interface(`polaris_nvram_read',
    gen_require(`
    type polaris_nvram_file_t;
    type device_t;
    ')

    read_blk_files_pattern($1, device_t, polaris_nvram_file_t)
    read_files_pattern($1, polaris_nvram_file_t, polaris_nvram_file_t)
read_lnk_files_pattern($1, polaris_nvram_file_t, polaris_nvram_file_t)
')

############################################################
## <summary>
##      getattr for nvram files (location varies by platform)
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
## </summary>
## </param>
## <rolebase/>
#
interface('polaris_nvram_getattr',
  gen_require(
    type polaris_nvram_file_t;
    type device_t;
  ')
  setattr_blk_files_pattern($1, device_t, polaris_nvram_file_t)
  setattr_files_pattern($1, polaris_nvram_file_t, polaris_nvram_file_t)
  setattr_lnk_files_pattern($1, polaris_nvram_file_t, polaris_nvram_file_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisnvram.if
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/cpp/bin/cpp_stats_svr -- gen_context(system_u:object_r:polaris_cpp_stats_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppstats.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polarisoom, 1.0);

polaris_process_domain_template(oom)

corecmd_exec_bin(polaris_oom_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_oom_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_oom_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_oom_t)

allow polaris_oom_t self:capability sys_resource;
allow polaris_oom_t self:process setpgid;

polaris_btrace_data_manage(polaris_oom_t)
polaris_chasfs_manage(polaris_oom_t)
polaris_cpld_read(polaris_oom_t)
polaris_boot_tmp_read(polaris_oom_t)
polaris_read_debug_conf(polaris_oom_t)
polaris_disk_crashinfo_getattr(polaris_oom_t)
polaris_rmonbifo_tmp_read(polaris_oom_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisoom.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

# /mnt/sd1 edison and nyquist
/mnt/sd1(\.*)?
    gen_context(system_u:object_r:polaris_disk_crashinfo_t,s0)
/mnt/sd1/tracelogs(\.*)?
    gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/mnt/sd1/system-report_\.*\.tar\.gz
    gen_context(system_u:object_r:polaris_system_report_t,s0)

# /mnt/sd3 edison and nyquist
/mnt/sd3(\.*)?
    gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
/mnt/sd3/user/core(\.*)?
    gen_context(system_u:object_r:polaris_core_file_t,s0)
/mnt/sd3/user/tracelogs(\.*)?
    gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/mnt/sd3/user/tan(\.*)?
    gen_context(system_u:object_r:polaris_btrace_data_t,s0)
Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 499

/mnt/sd3/user/.ssh/*? gen_context(system_u:object_r:ssh_home_t,s0)
/mnt/sd3/user/.ssh/ssh_host.*_key.pub gen_context(system_u:object_r:sshd_key_t,s0)
/mnt/sd3/user/.ssh/ssh_host.*_key gen_context(system_u:object_r:sshd_key_t,s0)
/mnt/sd3/user/nvram_config -- gen_context(system_u:object_r:polaris_nvram_file_t,s0)
/mnt/sd3/user/packages.conf -- gen_context(system_u:object_r:polaris_packages_conf_t,s0)
/mnt/sd3/user/dbpersist(/.*)? gen_context(system_u:object_r:polaris_disk_dbm_t,s0)
/mnt/sd3/user/installer(/.*)? gen_context(system_u:object_r:polaris_disk_install_t,s0)
/mnt/sd3/user/rollback_timer(/.*)? gen_context(system_u:object_r:polaris_rbtimer_bootflash_t,s0)
/mnt/sd3/user/kernel/core(/.*)? gen_context(system_u:object_r:polaris_core_file_t,s0)
/mnt/sd3/user/sys_report(/.*)? gen_context(system_u:object_r:polaris_chasync_files_t,s0)

# /mnt/sd4 nyquist
/mnt/sd4(/.*)? gen_context(system_u:object_r:polaris_disk_license_t,s0)

# /mnt/sd5 edison and nyquist
/mnt/sd5(/.*)? gen_context(system_u:object_r:polaris_disk_license_t,s0)

ifdef(`edison_platform',`
# /mnt/sd6
/mnt/sd6(/.*)? gen_context(system_u:object_r:polaris_disk_license_t,s0)

# /mnt/sd7
/mnt/sd7(/.*)? gen_context(system_u:object_r:polaris_obfl_data_t,s0)

# /mnt/sd8
/mnt/sd8(/.*)? gen_context(system_u:object_r:polaris_disk_ucode_t,s0)

# /mnt/sd9
/mnt/sd9(/.*)? gen_context(system_u:object_r:polaris_disk_recovery_t,s0)
')

ifdef(`nyquist_platform',`
# /mnt/sd6
/mnt/sd6(/.*)? gen_context(system_u:object_r:polaris_obfl_data_t,s0)

# /mnt/sd7
/mnt/sd7(/.*)? gen_context(system_u:object_r:polaris_disk_ucode_t,s0)

# unmoutnt script used ny Nyquist platform
/bin/cat9k_ssd_unmount.sh gen_context(system_u:object_r:polaris_ssd_unmount_exec_t,s0)
')

ifdef(`quake_platform',`
# /mnt/sd6
/mnt/sd6(/.*)? gen_context(system_u:object_r:polaris_obfl_data_t,s0)

# /mnt/sd7
/mnt/sd7(/.*)? gen_context(system_u:object_r:polaris_disk_ucode_t,s0)
# /crashinfo is symbolic link to /mnt/sd1 created by systemd-tmpfiles
/crashinfo gen_context(system_u:object_r:polaris_disk_crashinfo_t,s0)
# /flash is symbolic link to /mnt/sd3/user
/flash gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# /lic0 is symbolic link to /mnt/sd4
/lic0 gen_context(system_u:object_r:polaris_disk_license_t,s0)
# /lic1 is symbolic link to /mnt/sd5
/lic1 gen_context(system_u:object_r:polaris_disk_license_t,s0)
# /ngwc_config/nvram is symbolic link to /mnt/sd3/user
/ngwc_config/nvram gen_context(system_u:object_r:polaris_nvram_file_t,s0)

# /flash1 macallan
/flash1(/.*)? gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
/flash1/user/core(/.*)? gen_context(system_u:object_r:polaris_core_file_t,s0)
/flash1/user/tracelogs(/.*)? gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/flash1/user/ssh(/.*)? gen_context(system_u:object_r:ssh_home_t,s0)
/flash1/user/.ssh/ssh_host.*_key\.pub gen_context(system_u:object_r:sshd_key_t,s0)
/flash1/user/.ssh/ssh_host.*_key gen_context(system_u:object_r:sshd_key_t,s0)
/flash1/user/nvram_config -- gen_context(system_u:object_r:polaris_nvram_file_t,s0)
/flash1/user/debug.conf -- gen_context(system_u:object_r:polaris_debug_conf_t,s0)
/flash1/user/packages.conf gen_context(system_u:object_r:polaris_packages_conf_t,s0)
/flash1/user/kernel/core(/.*)? gen_context(system_u:object_r:polaris_core_file_t,s0)
/flash1/user/rollback_timer(/.*)? gen_context(system_u:object_r:polaris_rbtimer_bootflash_t,s0)
/flash1/user/installer(/.*)? gen_context(system_u:object_r:polaris_disk_install_t,s0)
/flash1/user/dbpersist(/.*)? gen_context(system_u:object_r:polaris_disk_dbm_t,s0)
/flash1/user/tan(/.*)? gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/flash1/user/sys_report(/.*)? gen_context(system_u:object_r:polaris_chasync_files_t,s0)
/flash1/TEMPLATE(/.*)? gen_context(system_u:object_r:polaris_chasync_files_t,s0)

# /flash2 macallan 9500h
/flash2(/.*)? gen_context(system_u:object_r:polaris_disk_harddisk_t,s0)
/flash2/CRASH(/.*)? gen_context(system_u:object_r:polaris_disk_crashinfo_t,s0)
/flash2/CRASH/tracelogs(/.*)? gen_context(system_u:object_r:polaris_btrace_data_t,s0)

# /flash3 macallan
/flash3(/.*)? gen_context(system_u:object_r:polaris_obfl_data_t,s0)

# /flash4 macallan
/flash4(/.*)? gen_context(system_u:object_r:polaris_disk_license_t,s0)

# /flash5 macallan
/flash5(/.*)? gen_context(system_u:object_r:polaris_disk_license_t,s0)

# /flash6 macallan, used for silent roll in macallan
/flash6(/.*)? gen_context(system_u:object_r:polaris_disk_ucode_t,s0)
# /flash7 macallan, silent roll

```
flash7(/.*)? gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
```

# macallan silent roll link

```
/cc_srdrv gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
```

# macallan /ngmod_config/nvram link will be labeled by systemd-tmpfiles

```
/ngmod_config gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
/ngmod_config/nvram gen_context(system_u:object_r:polaris_nvram_file_t,s0)
```

# remap_mem0 device

```
/dev/remap_mem0 -c gen_context(system_u:object_r:polaris_remap_mem_device_t,s0)
```

# chdrvmmmap device (MMAP Driver for ASIC Memory mapping)

```
/dev/chdrvmmmap -c gen_context(system_u:object_r:polaris_chdrvmmmap_device_t,s0)
```

# gettysburg_dev1 device

```
/dev/gettysburg_dev[0-9]* -c gen_context(system_u:object_r:polaris_gettysburg_fpga_device_t,s0)
```

# types that might be packages label by other policy

```c
ifdef(`nyquist_platform',
  /usr/binos/bin/flash_check.sh -- gen_context(system_u:object_r:polaris_flashcheck_exec_t,s0)
  /usr/binos/bin/cmcc -- gen_context(system_u:object_r:polaris_cm_cc_exec_t,s0)
  )
```

```c
ifdef(`passport_platform',
  /usr/binos/bin/platform_mgr -- gen_context(system_u:object_r:polaris_ngwc_plfm_mgr_exec_t,s0)
  /usr/binos/bin/xcvr_test -- gen_context(system_u:object_r:polaris_xcvr_test_exec_t,s0)
  )
```

# PLEASE LOOK AT ME: why this file in /etc/init.d?

```
/etc/rc.d/init.d/cat9k_fpgahelper_funcs.sh -- gen_context(system_u:object_r:bin_t,s0)
/etc/rc.d/init.d/cat9k_kr_helper.sh -- gen_context(system_u:object_r:bin_t,s0)
```

# symbolic links in /platform-specific directory

```
/platform-specific/gryphon -l gen_context(system_u:object_r:root_t,s0)
/platform-specific/gryphon_lite -l gen_context(system_u:object_r:root_t,s0)
/platform-specific/prometheus -l gen_context(system_u:object_r:root_t,s0)
/platform-specific/skyfox -l gen_context(system_u:object_r:root_t,s0)
/platform-specific/vulcan -l gen_context(system_u:object_r:root_t,s0)
/platform-specific/intrepid -l gen_context(system_u:object_r:root_t,s0)
/platform-specific/martion -l gen_context(system_u:object_r:root_t,s0)
/platform-specific/farscape -l gen_context(system_u:object_r:root_t,s0)
```
Open Source Used In Petra/TRAX/Arthas RM

/platform-specific/borg -l gen_context(system_u:object_r:root_t,s0)
/platform-specific/scorpion -l gen_context(system_u:object_r:root_t,s0)

# /dev/cisco/dplriomem device, Generic Memory map driver for mapping doppler IO memory to userspace
/dev/cisco/dplriomem -c gen_context(system_u:object_r:polaris_dplr_iomem_mmapdrv_device_t,s0)

# /dev/cisco/dplriomem device, Generic Memory map driver for mapping doppler IO memory to userspace
/dev/cisco/dplriomem -c gen_context(system_u:object_r:polaris_dplr_iomem_mmapdrv_device_t,s0)

/vol/disk0(/.*)? gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# /appstore_hd is symbolic link to /vol/disk0
/appstore_hd -l gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# /appstore_flash is symbolic link to /flash1
/appstore_flash -l gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# /rp_srdrv is symbolic link to /flash6/DPU
/rp_srdrv -l gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# /init is symbolic link to /lib/systemd/systemd
/init -l gen_context(system_u:object_r:init_exec_t,s0)
# /install is symbolic link to /flash1/INSTALL
/install -l gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# disk0 is symbolic link to /vol/disk0
/disk0 -l gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)

# provide relabeling rules for /platform-specific/personality file
# otherwise, they cause conflicting specifications error during relabeling
/platform-specific/bigbang/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/nyquist/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/passport/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/starfleet/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/intrepid/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/martion/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/farscape/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/borg/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/scorpion/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/imperial/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/jura/lib/modules(/.*)? gen_context(system_u:object_r:modules_object_t,s0)
/platform-specific/quake1/lib/systemd/system(/.*)? gen_context(system_u:object_r:systemd_unit_file_t,s0)
/platform-specific/quake2/lib/systemd/system(/.*)? gen_context(system_u:object_r:systemd_unit_file_t,s0)
/platform-specific/quake2/lib/systemd/system(/.*)? gen_context(system_u:object_r:systemd_unit_file_t,s0)
/platform-specific/quake2/lib/systemd/system(/.*)? gen_context(system_u:object_r:systemd_unit_file_t,s0)
/platform-specific/quake2/lib/systemd/system(/.*)? gen_context(system_u:object_r:systemd_unit_file_t,s0)
/platform-specific/quake2/lib/systemd/system(/.*)? gen_context(system_u:object_r:systemd_unit_file_t,s0)
/platform-specific/scorpion/lib/systemd/system(/.*)? gen_context(system_u:object_r:systemd_unit_file_t,s0)
/platform-specific/imperial/lib/systemd/system(/.*)? gen_context(system_u:object_r:systemd_unit_file_t,s0)
/platform-specific/jura/lib/systemd/system(/.*)? gen_context(system_u:object_r:systemd_unit_file_t,s0)
Open Source Used In Petra/TRAX/Arthas

platform-specific/bigbang/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/nyquist/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/passport/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/starfleet/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/intrepid/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/martian/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/farscape/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/borg/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/scorpion/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/imperial/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)
platform-specific/jura/usr/binos/conf(/.*)?  gen_context(system_u:object_r:usr_ts0)

platform-specific/bigbang/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/nyquist/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/passport/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/starfleet/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/intrepid/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/martian/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/farscape/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/borg/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/scorpion/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/imperial/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)
platform-specific/jura/usr/binos/bin(/.*)?  gen_context(system_u:object_r:bin_ts0)

platform-specific/bigbang/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/nyquist/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/passport/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/starfleet/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/intrepid/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/martian/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/farscape/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/borg/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/scorpion/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/imperial/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/jura/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
platform-specific/quake1/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_ts0)
/platform-specific/quake2/etc/selinux(/.*)?  gen_context(system_u:object_r:selinux_config_t,s0)

# /objstore/swtam for hybrid TAM access
/objstore(/.*)?  gen_context(system_u:object_r:polaris_disk_objstore_t,s0)

/platform-specific/bigbang/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/nyquist/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/passport/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/starfleet/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/intrepid/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/martian/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/farscape/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/borg/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/scorpion/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/imperial/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/jura/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/quake1/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/quake2/etc/selinux(/[^/]*/)?contexts(/.*)?  gen_context(system_u:object_r:default_context_t,s0)
/platform-specific/bigbang/etc/hosts[^/]*          -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/nyquist/etc/hosts[^/]*          -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/passport/etc/hosts[^/]*         -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/starfleet/etc/hosts[^/]*        -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/intrepid/etc/hosts[^/]*        -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/martian/etc/hosts[^/]*        -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/farscape/etc/hosts[^/]*        -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/borg/etc/hosts[^/]*        -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/scorpion/etc/hosts[^/]*        -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/imperial/etc/hosts[^/]*        -- gen_context(system_u:object_r:net_conf_t,s0)
/platform-specific/jura/etc/hosts[^/]*          -- gen_context(system_u:object_r:net_conf_t,s0)
/verify_packages.sh                                -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/bigbang/verify_packages.sh      -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/nyquist/verify_packages.sh      -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/passport/verify_packages.sh     -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/starfleet/verify_packages.sh    -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/intrepid/verify_packages.sh     -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/martian/verify_packages.sh      -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/farscape/verify_packages.sh     -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/borg/verify_packages.sh        -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/scorpion/verify_packages.sh     -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/imperial/verify_packages.sh     -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/jura/verify_packages.sh        -- gen_context(system_u:object_r:bin_t,s0)
/platform-specific/bigbang/etc/udev/rules.d(/.*)?  gen_context(system_u:object_r:udev_rules_t,s0)
/platform-specific/nyquist/etc/udev/rules.d(/.*)?  gen_context(system_u:object_r:udev_rules_t,s0)
Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 505

/platform-specific/passport/etc/udev/rules.d(/.*)? gen_context(system_u:object_r:udev_rules_t,s0)
/platform-specific/starfleet/etc/udev/rules.d(/.*)? gen_context(system_u:object_r:udev_rules_t,s0)
/platform-specific/intrepid/etc/udev/rules.d(/.*)? gen_context(system_u:object_r:udev_rules_t,s0)
/platform-specific/martian/etc/udev/rules.d(/.*)? gen_context(system_u:object_r:udev_rules_t,s0)
/platform-specific/farscape/etc/udev/rules.d(/.*)? gen_context(system_u:object_r:udev_rules_t,s0)
/platform-specific/borg/etc/udev/rules.d(/.*)? gen_context(system_u:object_r:udev_rules_t,s0)
/platform-specific/scorpion/etc/udev/rules.d(/.*)? gen_context(system_u:object_r:udev_rules_t,s0)
/platform-specific/imperial/etc/udev/rules.d(/.*)? gen_context(system_u:object_r:udev_rules_t,s0)
/platform-specific/jura/etc/udev/rules.d(/.*)? gen_context(system_u:object_r:udev_rules_t,s0)
/dev/shm/sem\.*i2c_sem000 gen_context(system_u:object_r:polaris_quake_i2c_t,s0)
/dev/shm/sem\.*i2c_sem001 gen_context(system_u:object_r:polaris_quake_i2c_t,s0)
/dev/shm/sem\.*i2c_sem002 gen_context(system_u:object_r:polaris_quake_i2c_t,s0)
/dev/shm/sem\.*i2c_sem003 gen_context(system_u:object_r:polaris_quake_i2c_t,s0)
/dev/shm/sem\.*i2c_sem004 gen_context(system_u:object_r:polaris_quake_i2c_t,s0)
/dev/shm/sem\.*i2c_sem005 gen_context(system_u:object_r:polaris_quake_i2c_t,s0)
/dev/shm/sem\.*i2c_sem006 gen_context(system_u:object_r:polaris_quake_i2c_t,s0)
/dev/shm/sem\.*i2c_sem007 gen_context(system_u:object_r:polaris_quake_i2c_t,s0)
/dev/shm/sem\.*io_expander_semaphore gen_context(system_u:object_r:polaris_quake_i2c_t,s0)

# on pangea/bigbang platforms /dev/NVRAM block device is accessed
# by flashlib in iosd. It stores rommon vars
ifdef(`bigbang_platform',
/dev/NVRAM -b gen_context(system_u:object_r:polaris_flashlib_device_t)
# /mnt/sd6
/mnt/sd6(/.*)? gen_context(system_u:object_r:polaris_obfl_data_t,s0)
')

/vol/usb1(/.*)? gen_context(system_u:object_r:polaris_disk_harddisk_t,s0)
/mnt/vbd[a-j]2(/.*)? gen_context(system_u:object_r:polaris_obfl_data_t,s0)
/tmp/fpga_upgrade gen_context(system_u:object_r:polaris_fpga_upgrade_tmp_t,s0)

#/ucode0 9300 silent roll
/ucode0(/.*)? gen_context(system_u:object_r:polaris_disk_ucode0_t,s0)

#/dev/cisco/fpgaiomem device, Generic Memory map driver for mapping FPGA IO memory to userspace
/dev/cisco/fpgaiomem -c gen_context(system_u:object_r:polaris_fpga_iomem_mmapfpga_device_t,s0)

# nplusm-power file is located in /bootflash and needs to be accessed by cman-rp/IOSd
 flash1/user/nplusm-power gen_context(system_u:object_r:polaris_nplusm_power_file_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwc.fc
No license file was found, but licenses were detected in source scan.

#
# June 2020, Cuiyan Ma
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#
/usr/bin/os/conf/issu_comp_check.sh     -- gen_context(system_u:object_r:polaris_issu_comp_check_exec_t,s0)
/tmp/boottime_comp_check_tree_other_rp -d gen_context(system_u:object_r:polaris_issu_comp_check_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisissucompcheck.fc
No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky
# # Copyright (c) 2017-2020 by Cisco Systems, Inc.
# # All rights reserved
#
## <summary>Polaris repm Policy Rules.</summary>

...............................................................
## <summary>
## Manage /tmp/replications files.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_repm_tmp_manage',`
    gen_require(`
        type polaris_repm_tmp_t;
    ')
    manage_files_pattern($1, polaris_repm_tmp_t, polaris_repm_tmp_t)
    manage_dirs_pattern($1, polaris_repm_tmp_t, polaris_repm_tmp_t)
')

...............................................................
## <summary>
## Manage /dev/shm/mq.-repm_peer_mq/ files.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
interface(`polaris_repm_peer_mqipc_manage',`
    gen_require(`
        type polaris_repm_peer_mqipc_t;
    `)
    manage_files_pattern($1, polaris_repm_peer_mqipc_t, polaris_repm_peer_mqipc_t)
    allow $1 polaris_repm_peer_mqipc_t:file map;
    polaris_mqipc_create_name_dir($1, polaris_repm_peer_mqipc_t, repm_peer_mq)
    `)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrepm.if
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define(`mqipc_interface_map', `defn(format(``mqipc_interface_map[%s]', `$1'))')
define(`mqipc_interface_map_set', `define(format(``mqipc_interface_map[%s]', `$1'), `$2')')

define(`polaris_mqipc_service_server_many',
    `ifelse($3, `',
        polaris_mqipc_create_name(dollarsone, $1, $2),
        polaris_mqipc_create_name(dollarsone, $1, $2-b$3)
    `ifelse($3, 0, `polaris_mqipc_create_name(dollarsone, $1, $2)', `polaris_mqipc_service_server_many($1, $2, eval($3 - 1)))')')

define(`polaris_mqipc_service_server_aux_full', `dnl
    `)

# <summary>
# Create $2 mqipc chanell.
# <summary>
# <param name="domain">
# Domain allowed access.
# </summary>
# <param>
# <infoflow type="none"/>
# interface(``polaris_mqipc_1_create_name'',`
    gen_require(`
        type $2;
    `)
$3
"

########################################
## <summary>
## Use $2 mqipc chanell.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <infoflow type="none"/>
#
interface(``polaris_mqipc_$1_use'',``
gen_require(`
    type $2;
')

    polaris_mqipc_use(dollarsone, $2)
"
')

define('polaris_mqipc_service_server_aux','
ifelse(mqipc_interface_map($1), `', `polaris_mqipc_service_server_aux_full($1, $2, $3)')
mqipc_interface_map_set($1, 1)
')

define('polaris_mqipc_service_server',`dnl
polaris_mqipc_service_server_aux(mqipc_stem($1), mqipc_label($1),
polaris_mqipc_service_server_many(mqipc_label($1), $5, max_scope_map($3, $4, $2)))'
)

define('polaris_mqipc_service_client',``)

define('polaris_mqipc_service_server_elastic_client',`dnl
polaris_mqipc_service_server_aux(mqipc_stem($1), mqipc_label($1),
polaris_mqipc_service_server_many(mqipc_label($1), $5, max_scope_map($4, elastic, $3)))'
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_mqipc_if.m4
No license file was found, but licenses were detected in source scan.
#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
/dev/lsmpi -c gen_context(system_u:object_r:polaris_lsmpi_device_t,s0)
/dev/lsmpi_app0 -c gen_context(system_u:object_r:polaris_lsmpi_device_t,s0)
/dev/lsmpi_app1 -c gen_context(system_u:object_r:polaris_lsmpi_device_t,s0)
/dev/lsmpi_app2 -c gen_context(system_u:object_r:polaris_lsmpi_device_t,s0)
/tmp/pi(/.*)? gen_context(system_u:object_r:polaris_pi_uds_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislsmpi.fc
No license file was found, but licenses were detected in source scan.

# November 2020, Christine Hwang
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisbbu, 1.0);

gen_require(
    type polaris_bbu_t;
    )

polaris_btrace_data_manage(polaris_bbu_t)
polaris_chasfs_manage(polaris_bbu_t)
polaris_dldresolve_read(polaris_bbu_t)
polaris_cpld_read(polaris_bbu_t)
polaris_ripc_sman_ui_serv_connect(polaris_bbu_t)

# Allow I2C Usage
polaris_i2c_use(polaris_bbu_t)
polaris_i2c_sem_manage(polaris_bbu_t)

# Allow sysfs read for platform ID
dev_list_sysfs(polaris_bbu_t)

# Allow bbu to access NVRAM for /flash0/bbu
fs_getattr_tmpfs(polaris_bbu_t)
polaris_nvram_manage(polaris_bbu_t)

# Allow logger which is used for syslog messages
allow polaris_bbu_t self:unix_dgram_socket { connect create };
logging_send_syslog_msg(polaris_bbu_t)

# tty BBU device
type polaris_bbu_device_t;
dev_node(polaris_bbu_device_t)

polaris_bbu_dev_use(polaris_bbu_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbbu.te
No license file was found, but licenses were detected in source scan.

#  # February 2020, Victor Kamensky
#  # Copyright (c) 2020 by Cisco Systems, Inc.
#  # All rights reserved  
#
#
## <summary>Polaris dmi_ports_fetch Policy Rules.</summary>

###########################################################################
## <summary>
##      Execute a domain transition to run dmi_ports_fetch.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed to transition.
##      </summary>
## </param>
#
interface(`polaris_dmi_ports_fetch_domtrans',`
gen_require(`
    type polaris_dmi_ports_fetch_t, polaris_dmi_ports_fetch_exec_t;
')

domtrans_pattern($1, polaris_dmi_ports_fetch_exec_t, polaris_dmi_ports_fetch_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmiportsfetch.if
No license file was found, but licenses were detected in source scan.

#  # March 2017, Victor Kamensky
#  # Copyright (c) 2016-2020 by Cisco Systems, Inc.
#  # All rights reserved  
#

policy_module(polariscliagent, 1.0);
gen_require(
    type polaris_cli_agent_t;
)

polaris_btrace_data_manage(polaris_cli_agent_t)
polaris_crft_data_manage(polaris_cli_agent_t)
polaris_chasfs_manage(polaris_cli_agent_t)
polaris_tdlresolve_read(polaris_cli_agent_t)
polaris_tdldb_list_dirs(polaris_cli_agent_t)
polaris_cpld_read(polaris_cli_agent_t)
polaris_flashlib_read(polaris_cli_agent_t)
polaris_ripc_sman-ui_serv_connect(polaris_cli_agent_t)
polaris_db_tdldb_dir_use(polaris_cli_agent_t)
polaris_libciutil_build_config_directory(polaris_cli_agent_t)

# cli_agent /var/run pid file
type polaris_cli_agent_var_run_t;
files_pid_file(polaris_cli_agent_var_run_t)
manage_files_pattern(polaris_cli_agent_t, polaris_cli_agent_var_run_t, polaris_cli_agent_var_run_t)
manage_dirs_pattern(polaris_cli_agent_t, polaris_cli_agent_var_run_t, polaris_cli_agent_var_run_t)
files_pid_filetrans(polaris_cli_agent_t, polaris_cli_agent_var_run_t, { file dir })
polaris_cfg_data_manage(polaris_cli_agent_t)

# Provide sys_resource capability as well for sys_pipe calls
allow polaris_cli_agent_t self:capability { dac_override sys_resource };
logging_send_syslog_msg(polaris_cli_agent_t)

#DB persistence
polaris_tdldbpersist_setup(polaris_cli_agent_t)
polaris_tmp_tdldbPersist_setup(polaris_cli_agent_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscliagent.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polarisflashlib, 1.0);

# Flashlib policy (infra/flashlib)
type polaris_flashlib_lock_t;
files_type(polaris_flashlib_lock_t)

gen_require("
    attribute polaris_extended_domain;
"
)

# /tmp/.flashlock file is used as flashlib lock
gen_require("
    type init_t;
"
)  
files_tmp_filetrans({ init_t polaris_extended_domain }, polaris_flashlib_lock_t, file, ".flashlock")

type polaris_flashlib_log_t;
files_type(polaris_flashlib_log_t)

gen_require("
    attribute polaris_extended_domain;
"
)

# /tmp/flashdev.log file is used as flashlib to log
files_tmp_filetrans(polaris_extended_domain, polaris_flashlib_log_t, file, "flashdev.log")

# /dev/shm/flash_shm shared memory
type polaris_flash_shm_t;
files_type(polaris_flash_shm_t)

gen_require("
    attribute polaris_domain;
    type tmpfs_t;
"
)  
filetrans_pattern(polaris_domain, tmpfs_t, polaris_flash_shm_t, file, "flash_shm")

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisflashlib.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris CPLD Policy Rules.</summary>

# Quack Driver policy

### <summary>
Work (read, write, ioctl) with /dev/quack
### </summary>
### <param name="domain">
### <summary>
Domain allowed access.
### </summary>
### </param>

```c
interface('polaris_quack_dev_use',
gen_require(
    type device_t;
type polaris_quack_device_t;
')
write_chr_files_pattern($1, device_t, polaris_quack_device_t)
read_chr_files_pattern($1, device_t, polaris_quack_device_t)
')
```

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisquack.if
No license file was found, but licenses were detected in source scan.

#
# October 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris wstatsd Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswstatsd.if
No license file was found, but licenses were detected in source scan.

dnl
dnl Mar 2020, Manu Roy
dnl
dnl Copyright (c) 2020 by Cisco Systems, Inc.
dnl All rights reserved
dnl

dnl Petra Platform Max Bay Limits
max_bay_map_set(‘rp’, ‘per_bay’, 0)
max_bay_map_set(‘cc’, ‘per_bay’, 0)
max_bay_map_set(‘fp’, ‘per_bay’, 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/petramaps.m4
No license file was found, but licenses were detected in source scan.

#
# October 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariswstatsd, 1.0);

gen_require(
    type polaris_wstatsd_t;
')

polaris_btrace_data_manage(polaris_wstatsd_t)
polaris_crft_data Manage(polaris_wstatsd_t)
polaris_chasfs Manage(polaris_wstatsd_t)
polaris_tdlresolve_read(polaris_wstatsd_t)
polaris_tlddb_list_dirs(polaris_wstatsd_t)
polaris_epld_read(polaris_wstatsd_t)
polaris_lua_read(polaris_wstatsd_t)
polaris_flashlib_read(polaris_wstatsd_t)
polaris_ripc_sman_ui_serv_connect(polaris_wstatsd_t)
polaris_db_tlddb_dir_use(polaris_wstatsd_t)

allow polaris_wstatsd_t self:capability dac_override;
allow polaris_wstatsd_t self:udp_socket { bind setopt getattr };
corenet_udp_bind_generic_node(polaris_wstatsd_t)
corenet_udp_bind_polaris_capwap_data_port(polaris_wstatsd_t)
polaris_socketat_nsfs_read(polaris_wstatsd_t)
polaris_lifts_dev_use(polaris_wstatsd_t)
polaris_tlddbpersist_setup(polaris_wstatsd_t)
polaris_tmp_tlddb_persist_setup(polaris_wstatsd_t)
logging_send_syslog_msg(polaris_wstatsd_t)
#allow to read /etc/passwd
auth_use_nsswitch(polaris_wstatsd_t)

#this is being given for process to execute tar
corecmd_exec_bin(polaris_wstatsd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswstatsd.te
No license file was found, but licenses were detected in source scan.

#
# December 2019, Victor Kamensky
#
# Copyright (c) 2019-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisfnfagg, 1.0);

gen_require('type polaris_fnf_agg_t;
')

polaris_btrace_data_manage(polaris_fnf_agg_t)
polaris_crft_data_manage(polaris_fnf_agg_t)
polaris_chasfs_read(polaris_fnf_agg_t)
polaris_ldresolve_read(polaris_fnf_agg_t)
polaris_lua_read(polaris_fnf_agg_t)
polaris_flashlib_read(polaris_fnf_agg_t)
polaris_cpld_read(polaris_fnf_agg_t)
polaris_ripc_sman_ui_serv_connect(polaris_fnf_agg_t)
polaris_db_tdlldb_dir_use(polaris_fnf_agg_t)

allow polaris_fnf_agg_t self:capability { dac_override dac_read_search };

type polaris_fnf_agg_tmp_t;
files_tmp_file(polaris_fnf_agg_tmp_t)
files_tmp_filetrans(polaris_fnf_agg_t, polaris_fnf_agg_tmp_t, dir, "fnf_agg")
manage_files_pattern(polaris_fnf_agg_t, polaris_fnf_agg_tmp_t, polaris_fnf_agg_tmp_t)
manage_dirs_pattern(polaris_fnf_agg_t, polaris_fnf_agg_tmp_t, polaris_fnf_agg_tmp_t)

# allow sending files over HTTP
corenet_tcp_connect_http_port(polaris_fnf_agg_t)
sysnet_read_config(polaris_fnf_agg_t)
# allow UDP connection for punting fnf records
allow polaris_fnf_agg_t self:udp_socket { create_socket_perms recv_msg }
corenets_udp_bind_generic_node(polaris_fnf_agg_t)

# allow punting on routers/ewlc where lfts is being used
polaris_lfts_dev_use(polaris_fnf_agg_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfnfagg.te
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

```HBRAZ# <summary>Polaris VXE Platform Policy Rules.</summary>

interface(`polaris_objstore_sem_use',`
    gen_require(`
        type polaris_objstore_sem_t;
    `)
    allow $1 polaris_objstore_sem_t:sem rw_sem_perms;
    mmap_files_pattern($1, polaris_objstore_sem_t, polaris_objstore_sem_t)
    manage_files_pattern($1, polaris_objstore_sem_t, polaris_objstore_sem_t)
    `)

```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
```
## <summary>
## Search /dev/vda1 device the efi partition
## </summary>
## <param name="domain">
##      <summary>
##              Domain allowed access.
##      </summary>
## </param>
#
interface(polaris_grub_efi_search,`
  gen_require(`
    type polaris_grub_efi_t;
  `)
  search_dirs_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
`)

########################################################
## <summary>
## Read VXE install info files
## </summary>
## <param name="domain">
##      <summary>
##              Domain allowed access.
##      </summary>
## </param>
#
interface(polaris_vxeinstall_info_read,`
  gen_require(`
    type polaris_vxeinstall_info_t;
  `)
  read_files_pattern($1, polaris_vxeinstall_info_t, polaris_vxeinstall_info_t)
  list_dirs_pattern($1, polaris_vxeinstall_info_t, polaris_vxeinstall_info_t)
`)

########################################################
## <summary>
## Read /dev/vda1 device the efi partition
## </summary>
## <param name="domain">
##      <summary>
##              Domain allowed access.
##      </summary>
## </param>
#
interface(polaris_grub_info_read,`
  gen_require(`
    type polaris_grubver_t;
    type polaris_grub_bios_t;
`
```
type polaris_grub_efi_t;
')
read_files_pattern($1, polaris_grubver_t, polaris_grubver_t)
read_files_pattern($1, polaris_grub_bios_t, polaris_grub_bios_t)
read_files_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
list_dirs_pattern($1, polaris_grubver_t, polaris_grubver_t)
list_dirs_pattern($1, polaris_grub_bios_t, polaris_grub_bios_t)
list_dirs_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
')

###########################################################
## <summary>
## Manage /dev/vda1 device the efi partition
## </summary>
## <param name="domain">
##     <summary>
##             Domain allowed access.
##     </summary>
## </param>
#
interface(`polaris_grubcfg_manage',`
gen_require(`
type polaris_grub_bios_t;
type polaris_grub_efi_t;
')
manage_files_pattern($1, polaris_grub_bios_t, polaris_grub_bios_t)
manage_files_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
manage_dirs_pattern($1, polaris_grub_bios_t, polaris_grub_bios_t)
manage_dirs_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
')

###########################################################
## <summary>
## Manage regular files/directories under /varied/grub
## CSR manages files in legacy grub disk location
## also allow run readlink -f /dev/bootflash
## </summary>
## <param name="domain">
##     <summary>
##             Domain allowed access.
##     </summary>
## </param>
#
interface(`polaris_legacy_grub_manage',`
gen_require(`
type boot_t;
type fixed_disk_device_t;
')
```
manage_files_pattern($1, boot_t, boot_t)
manage_dirs_pattern($1, boot_t, boot_t)
storage_getattr_fixed_disk_dev($1)
')

######################################
## <summary>
## Work (read, write, ioctl) with /dev/hanet
## hanet driver used by vpcgw platform of VXE family
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
ifdef(`vpcgw_platform',`
interface(`polaris_hanet_dev_use',`
gen_require(`
   type device_t;
type polaris_hanet_device_t;
')
   write_chr_files_pattern($1, device_t, polaris_hanet_device_t)
   read_chr_files_pattern($1, device_t, polaris_hanet_device_t)
')
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisvxe.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/pman.sh -- gen_context(system_u:object_r:polaris_pman_exec_t,s0)
/usr/bin/pman -- gen_context(system_u:object_r:polaris_pman_exec_t,s0)
/bin/gdbserver -- gen_context(system_u:object_r:polaris_gdb_exec_t,s0)
/usr/bin/gdbserver -- gen_context(system_u:object_r:polaris_gdb_exec_t,s0)
/tmp/pman_ports(/.*)? gen_context(system_u:object_r:polaris_pman_tmp_t,s0)
/tmp/fp/process(/.*)? gen_context(system_u:object_r:polaris_pman_tmp_t,s0)
/tmp/rp/process(/.*)? gen_context(system_u:object_r:polaris_pman_tmp_t,s0)
/tmp/vxe_ucode_image gen_context(system_u:object_r:polaris_pman_tmp_t,s0)
/tmp/wlc_icode_image  gen_context(system_u:object_r:polaris_pman_tmp_t,s0)
/tmp/utah_icode_image  gen_context(system_u:object_r:polaris_pman_tmp_t,s0)
/tmp/fugazi_icode_image  gen_context(system_u:object_r:polaris_pman_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispman.fc
No license file was found, but licenses were detected in source scan.

dnl

dnl April 2018, Victor Kamensky

dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved

dnl Macallan Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 9)
max_bay_map_set(`fp', `per_bay', 9)

min_bay_ripc_map_set(`rp', `per_bay', 0)
min_bay_ripc_map_set(`cc', `per_bay', 1)
min_bay_ripc_map_set(`fp', `per_bay', 0)

max_bay_ripc_map_set(`rp', `per_bay', 2)
max_bay_ripc_map_set(`cc', `per_bay', 10)
max_bay_ripc_map_set(`fp', `per_bay', 1)

min_bay_ripc_map_set(`rp', `global', 0)
min_bay_ripc_map_set(`cc', `global', 1)
min_bay_ripc_map_set(`fp', `global', 0)

max_bay_ripc_map_set(`rp', `global', 2)
max_bay_ripc_map_set(`cc', `global', 10)
max_bay_ripc_map_set(`fp', `global', 1)

dnl in elastic scope each process has its own value
max_elastic_map_set(`rp', `elastic', BPROC_ODM, 0)
max_elastic_map_set(`cc', `elastic', BPROC_ODM, 0)
max_elastic_map_set(`fp', `elastic', BPROC_ODM, 0)

max_elastic_map_set(`rp', `elastic', BPROC_WNCD, 0)
max_elastic_map_set(`cc', `elastic', BPROC_WNCD, 0)
max_elastic_map_set(`fp', `elastic', BPROC_WNCD, 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/macallanmaps.m4
No license file was found, but licenses were detected in source scan.
policy_module(polarisissustack, 1.0);

gen_require(
    type polaris_issu_stack_t;
')
corecmd_exec_bin(polaris_issu_stack_t)
corecmd_exec_shell(polaris_issu_stack_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_issu_stack_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_issu_stack_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_issu_stack_t)

# work with /tmp files (/tmp/issu_stk)
type polaris_issu_stack_tmp_t;
files_tmp_file(polaris_issu_stack_tmp_t)
manage_dirs_pattern(polaris_issu_stack_t, tmp_t, polaris_issu_stack_tmp_t)
manage_files_pattern(polaris_issu_stack_t, polaris_issu_stack_tmp_t, polaris_issu_stack_tmp_t)
manage_fifo_files_pattern(polaris_issu_stack_t, polaris_issu_stack_tmp_t, polaris_issu_stack_tmp_t)
files_tmp_filetrans(polaris_issu_stack_tmp_t, polaris_issu_stack_tmp_t, file)
files_tmp_filetrans(polaris_issu_stack_t, polaris_issu_stack_tmp_t, dir, "issu_stk")

allow polaris_issu_stack_t self:capability sys_resource;
polaris_btrace_data_manage(polaris_issu_stack_t)
polaris_chasfs_manage(polaris_issu_stack_t)
polaris_cpld_read(polaris_issu_stack_t)
polaris_proc_rmonbifo_read(polaris_issu_stack_t)
polaris_rmonbifo_tmp_read(polaris_issu_stack_t)
polaris_boot_tmp_read(polaris_issu_stack_t)
polaris_tdlresolve_read(polaris_issu_stack_t)
polaris_disk_crashinfo_getattr(polaris_issu_stack_t)

allow polaris_issu_stack_t self:capability dac_override;
polaris_read_debug_conf(polaris_issu_stack_t)
polaris_flashlib_read(polaris_issu_stack_t)

allow polaris_issu_stack_t self:process setpgid;

# modify tdlresolve epoch
polaris_tdlresolve_manage(polaris_issu_stack_t)

#rsync_exec(polaris_issu_stack_t)
gen_require('type rsync_t;
  ')
rsync_entry_domtrans(polaris_issu_stack_t, rsync_t)
allow rsync_t polaris_issu_stack_t:process sigchld;

# execute rsync over eobc: /usr/binos/conf/mcp_chvrf.sh eobc rsync
polaris_chvrf_domtrans(polaris_issu_stack_t)
# from chvrf.sh code executes rsync command
gen_require('type polaris_chvrf_t;
  ')
rsync_entry_domtrans(polaris_chvrf_t, rsync_t)
# LOOK AT ME: issu_stack.sh leaks fd of /tmp/issu_stk/chassis_state_evt_fifo
# for now grant access, since changing script may not be trivial
manage_fifo_files_pattern(polaris_chvrf_t, polaris_issu_stack_tmp_t, polaris_issu_stack_tmp_t)
write_files_pattern(polaris_chvrf_t, polaris_issu_stack_tmp_t, polaris_issu_stack_tmp_t)

polaris_install_engine_domtrans(polaris_issu_stack_t)
# LOOK AT ME: isse_stack.sh leak fd of /tmp/issu_stk/chassis_state_evt_fifo
# for now grant access, since changing script may not be trivial
gen_require('type polaris_install_engine_t;
  ')
read_fifo_files_pattern(polaris_install_engine_t, polaris_issu_stack_tmp_t, polaris_issu_stack_tmp_t, polaris_issu_stack_tmp_t)

polaris_install_tmp_read(polaris_issu_stack_t)

# access /bootflash/installer/install_issu_state
polaris_disk_install_read(polaris_issu_stack_t)

# rm from coreutils-8.30 wants to know filesystem type
fs_getattr_tmpfs(polaris_issu_stack_t)

# reads /tmp/remote_sw_verinfo.txt
gen_require('type rsync_tmp_t;''')
read_files_pattern(polaris_issu_stack_t, rsync_tmp_t, rsync_tmp_t)

# watch over /tmp/tdlresolve/work
polaris_tdlresolve_watch(polaris_issu_stack_t)

# issu_stack.sh access to epoch_merge.lua,epoch_endpoint_update.lua
polaris_lua_read(polaris_issu_stack_t)

# issu_stack.sh access to /tmp/rsync_log_dir
polaris_manage_rsync_tmplog_dir(polaris_issu_stack_t)

# issu_stack.sh access to epoch_merge.lua which merges epoch files, local.epoch and inyterchassis/.epcioh file
# /uajit/usr/binos/conf/epoch_merge.lua--base-file/tmp/tdlresolve/epoch_dir/local.epoch
#--merge-file/tmp/tdlresolve/work/inter
allow polaris_issu_stack_t self:process execmem;

#access to /tmp/installer/
polaris_install_tmp_manage(polaris_issu_stack_t)

#access to /tmp/ufs/harddisk
polaris_ncd_tmp_read(polaris_issu_stack_t)

# use of errmsg.sh
polaris_script_errmsg_use(polaris_issu_stack_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisissustack.te
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarislsmpi, 1.0);

#####################################################################################################
# Polaris lsmpi
#####################################################################################################

type polaris_lsmpi_device_t;
dev_node(polaris_lsmpi_device_t)

# note polaris_sysfs_contdev_t is defined in kernel/devices.te, since genfscon statements
# could be only in base policy
# punt/inject working through unix domain sockets
type polaris_pi_uds_t;
files_tmp_file(polaris_pi_uds_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaris/mpi.te
No license file was found, but licenses were detected in source scan.

#
# May 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris mdt_pubd Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismdtpubd.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisemd, 1.0);
gen_require(`
    type polaris_emd_t;
`)

polaris_btrace_data_manage(polaris_emd_t)
polaris_crft_data_manage(polaris_emd_t)
polaris_chasfs_manage(polaris_emd_t)
polaris_tdlresolve_read(polaris_emd_t)
polaris_tdlldb_list_dirs(polaris_emd_t)
polaris_cpld_read(polaris_emd_t)
polaris_flashlib_read(polaris_emd_t)
polaris_ripc_sman_ui_serv_connect(polaris_emd_t)
polaris_cpld_dev_use(polaris_emd_t)
devel_read_sysfs(polaris_emd_t)
polaris_obfl_data_manage(polaris_emd_t)
polaris_persistent_read(polaris_emd_t)
allow polaris_emd_t self:capability dac_override;

ifdef(`mcp_family','
polaris_scooby_dev_use(polaris_emd_t)
# read/write /sys/bus/i2c/drivers/pca9544/2-0077/reg_control and others
dev_getattr_sysfs_fs(polaris_emd_t)
dev_rw_sysfs(polaris_emd_t)
')

logging_send_syslog_msg(polaris_emd_t)

ifdef(`qwlc_platform','
# on qwlc read eeprom through i2c like /sys/devices/i2c-12/12-0050/eeprom
dev_rw_sysfs(polaris_emd_t)
dev_getattr_sysfs_fs(polaris_emd_t)
')

#sparrow needs access to /dev/i2c*
ifdef(`sparrow_platform','
gen_require(''
   type polaris_cm_cc_tmpfs_t;
')
polaris_i2c_use(polaris_emd_t)
polaris_i2c_sem_manage(polaris_emd_t)
mmap_files_pattern(polaris_emd_t, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)
')

ifdef(`katar_platform','
dev_rw_sysfs(polaris_emd_t)
dev_getattr_sysfs_fs(polaris_emd_t)
')

# emd creates udp socket
allow polaris_emd_t self:udp_socket create_socket_perms;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisemd.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris polarisdroputil Policy Rules.</summary>
### Interface

```c
interface('polaris_droputil_manage_tmp_files',
    gen_require(
        type polaris_droputil_tmp_t;
    )
    manage_files_pattern($1, polaris_droputil_tmp_t, polaris_droputil_tmp_t)
    read_link_files_pattern($1, polaris_droputil_tmp_t, polaris_droputil_tmp_t)
)
```

---

### Interface

```c
interface('polaris_droputil_tmp_watch',
    gen_require(
        type polaris_droputil_tmp_t;
    )
    allow $1 polaris_droputil_tmp_t:dir watch;
)
```

---

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdroputil.if
No license file was found, but licenses were detected in source scan.
dnl

dnl April 2018, Victor Kamensky

dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.

dnl define('polaris_ripc_service_server',"")
dnl define('polaris_ripc_service_client','")

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_ripc_if.m4
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_ripc_fc.m4

No license file was found, but licenses were detected in source scan.

dnl

dnl December 2018, Victor Kamensky

dnl Copyright (c) 2018-2020 by Cisco Systems, Inc.

dnl in elastic scope each process has its own value

dnl max_bay_map_set(`rp', `per_bay', 0)
dnl max_bay_map_set(`cc', `per_bay', 0)
dnl max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)
policy_module(polaris_tlscd, 1.0);

gen_require('  
  type polaris_tlscd_t;
  type net_conf_t;
')

polaris_btrace_data_manage(polaris_tlscd_t)
polaris_chasfs_manage(polaris_tlscd_t)
polaris_tdlresolve_read(polaris_tlscd_t)
polaris_tdlldb_list_dirs(polaris_tlscd_t)
polaris_lua_read(polaris_tlscd_t)
polaris_flashlib_read(polaris_tlscd_t)
polaris_chasfs_read(polaris_tlscd_t)
polaris_cpld_read(polaris_tlscd_t)
polaris_db_tdlldb_dir_use(polaris_tlscd_t)

# Related to vrf support of the socket
polaris_lfts_dev_use(polaris_tlscd_t)
polaris_socketat_nsfs_read(polaris_tlscd_t)
polaris_vrf_shm_manager(polaris_tlscd_t)

# TLSCd reads TCP/UDP ports open in VRF_GLOBAL for packet forwarding # to IOSd or BinOS applications.
kernel_read_net_sysctls(polaris_tlscd_t)
kernel_read_network_state(polaris_tlscd_t)
kernel_search_network_sysctl(polaris_tlscd_t)
allow polaris_tlscd_t net_conf_t:dir search;
allow polaris_tlscd_t net_conf_t:file { getattr open read watch };

# UDS related sockets are:
# /tmp/tlscd/iosd_to_tlscd_0_socket
# /tmp/tlscd/tlscd_to_iosd_0_socket
# IOSd and TLSCd exchange packet over these UDS socket, allow create/bind
type polaris_tlscd_uds_t;
files_tmp_file(polaris_tlscd_uds_t)
polaris_tlscd_uds_manage(polaris_tlscd_t)
polaris_iosd_dgram_send(polaris_tlscd_t)
allow polaris_tlscd_t self:unix_dgram_socket { bind create };

# Tunnel and TLS TCP connection related related
corenent_rwlock_dev(polaris_tlscd_t)
allow polaris_tlscd_t self:tun_socket create;
corenet_tcp_connect_all_ports(polaris_tlscd_t)

# errmsg
logging_send_syslog_msg(polaris_tlscd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristlscd.te
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define('polaris_database_aux', 'dnl
type $1;
polaris_tdldb_type($1)
')

define('polaris_database', 'dnl
polaris_database_aux(database_label($1))
')

define('polaris_database_process_aux_full', 'dnl
gen_require(`
    type $2;
')
polaris_db_tdldb_$1_use($2)
')

define('polaris_database_process_aux', 'dnl
ifelse(database_use_map($1, $2), `', `polaris_database_process_aux_full($1, $2)')
database_use_map_set($1, $2, 1)
')

define('polaris_database_process', 'dnl
polaris_database_process_aux(database_stem($1), process_label($2))dnl
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_database_db_te.m4
No license file was found, but licenses were detected in source scan.

#
# January 2021, Gabriel Lee, Shawn Liu
#

## <summary>Polaris ezmanage Policy Rules.</summary>

### Transition to ezmanage

### Domain allowed to transition.

### Read files under polaris_ezmanage_file_t label

### Domain allowed access.

### Manage files under polaris_ezmanage_var_run_t label
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
### <rolecap/>

#
interface('polaris_manage_ezmanage_var_run_files',
    gen_require(''
      type polaris_ezmanage_var_run_t;
    ')
    manage_sock_files_pattern($1, polaris_ezmanage_var_run_t, polaris_ezmanage_var_run_t);
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisezmanage.if
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscedge, 1.0);

# /tmp/xml handling
type polaris_cedge_xml_tmp_t;
files_tmp_file(polaris_cedge_xml_tmp_t)

# PLEASE LOOK AT ME very strange choice of directory name
# /tmp/tmp/ handling
type polaris_cedge_tmp_t;
files_tmp_file(polaris_cedge_tmp_t)

# /etc/viptela handling
type polaris_cedge_etc_t;
files_config_file(polaris_cedge_etc_t)

# /dev/shm handling
type polaris_cedge_tmpfs_t;
files_tmpfs_file(polaris_cedge_tmpfs_t)

# /tmp/.econfd2sysmgr-ipc handling
type polaris_econfd2sysmgr_tmp_t;
files_tmp_file(polaris_econfd2sysmgr_tmp_t)
# vconfd_script_reboot.sh policy
polaris_vconfd_domain_template(vconfd_reboot)

# vconfd_script_if_reset.sh policy
polaris_vconfd_domain_template(vconfd_ifreset)

# vconfd_script_get_config.sh policy
polaris_vconfd_domain_template(vconfd_cfg)

# vconfd_script_*_stats policy
polaris_vconfd_domain_template(vconfd_history)
corecmd_exec_bin(polaris_vconfd_history_t)

# performs 'rm /tmp/xml/Pfr/Pfr-1600801323.xml.gz'....but, do not know where
polaris_cedge_tmp_manage(polaris_vconfd_history_t)

# performs 'ls -rt /tmp/xml/UtdUrIf-IOX' etc.
polaris_cedge_xml_tmp_manage(polaris_vconfd_history_t)

# vconfd_script_manage_list_stats.sh performs operations on
# /tmp/vconfd/stats.XXXXXX
polaris_vconfd_tmp_manage(polaris_vconfd_history_t)

# software policy
polaris_vconfd_domain_template(vconfd_software)

# nms policy
polaris_vconfd_domain_template(vconfd_nms)

# device policy
polaris_vconfd_domain_template(vconfd_device)

# internal policy
polaris_vconfd_domain_template(vconfd_reset)

# cert policy
polaris_vconfd_domain_template(vconfd_cert)

# csr policy
polaris_vconfd_domain_template(vconfd_csr)

# vconfd_script_show_csr.sh invokes vlog
# /bin/sh vlog ....
# vlog is implemented in viptela/utils/vlog using logger; that needs
# - ceate/connect unix_dgram_socket
# - read from devtmpfs of type devlog_t
# - write to sock_file of type devlog_t
# - sendto path="/run/systemd/journal/dev-log" of type unix_dgram_socket
logging_send_syslog_msg(polaris_vconfd_csr_t)
corecmd_exec_bin(polaris_vconfd_csr_t)

# reads /usr/share/viptela/server.csr
polaris_bootflash_read(polaris_vconfd_csr_t)

# serial vsmart-upload vedge-upload policy
polaris_vconfd_domain_template(vconfd_serialnum)

# crash policy
polaris_vconfd_domain_template(vconfd_crash)

# aaa policy
polaris_vconfd_domain_template(vconfd_aaa)

# container policy
polaris_vconfd_domain_template(vconfd_contr)

# iox policy
polaris_vconfd_domain_template(vconfd_iox)

# utd policy
polaris_vconfd_domain_template(vconfd_utd)

# geo policy
polaris_vconfd_domain_template(vconfd_geo)

# vconfd_script_vnping.sh, vconfd_script_vping.sh, vconfd_script_vtraceroute.sh
# scripts policy
polaris_vconfd_domain_template(vconfd_net)

# runs ip command
sysnet_domtrans_ifconfig(polaris_vconfd_net_t)
# runs confd_cmd
corecmd_exec_bin(polaris_vconfd_net_t)

polaris_confd_connect(polaris_vconfd_net_t)

# /tmp/ polaris_vconfd_cert_t handling
type polaris_vconfd_cert_tmp_t;
files_tmp_file(polaris_vconfd_cert_tmp_t)
files_tmp_filetrans(polaris_vconfd_cert_t, polaris_vconfd_cert_tmp_t, { file dir })
polaris_vconfd_cert_tmp_manage(polaris_vconfd_cert_t)

# permit access to polaris_vconfd_cert_t
allow polaris_vconfd_cert_t self:capability { chown dac_override };

logging_send_syslog_msg(polaris_vconfd_cert_t)
corecmd_sbin_entry_type(polaris_vconfd_cert_t)
corecmd_shell_entry_type(polaris_vconfd_cert_t)

fs_read_nsfs_files(polaris_vconfd_cert_t)
logging_create_devlog_dev(polaris_vconfd_cert_t)

# to access the /bootflash: as the cert is stored in /bootflash:
# IOS cert related CLIs can create/store the certs in /bootflash with any
# file name(s), so allow generic access to bootflash.
polaris_bootflash_manage(polaris_vconfd_cert_t)

# manage /etc/viptela
polaris_cedge_etc_manage(polaris_vconfd_cert_t)
polaris_cedge_reset_ns(polaris_vconfd_cert_t)

# needed for accessing /tmp/chassis/local/rp/chasfs/midplane/chassis_model
polaris_chasfs_read(polaris_vconfd_cert_t)

#access to /etc/viptela
gen_require(`
    type polaris_nginx_t;
`)
polaris_cedge_etc_manage(polaris_nginx_t)

# For "confd_cmd", allow polaris_vconfd_cert_t, which is not a Binos process,
# to access polaris_confid_ipc_ripc_port_t.
polaris_ripc_confd_ipc_connect(polaris_vconfd_cert_t)

# permit to access /var/run/netns/default
sysnet_manage_ifconfig_run(polaris_vconfd_cert_t)

# vconfd_script_show_root_ca_cert.sh performs operations on
# /tmp/vconfd/root_cert.XXXXXXXXX
polaris_vconfd_tmp_manage(polaris_vconfd_cert_t)
fs_getattr_tmpfs(polaris_vconfd_cert_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.10/selinux-tar/selinux/polariscedge.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
### <summary>Polaris CPLD Policy Rules.</summary>

########################################################
# CPLD Driver policy
########################################################

########################################################
## <summary>
##     Read cpld files in /sys directory
## </summary>
## <param name="domain">
##     <summary>
##     Domain allowed access.
## </summary>
## </param>
#
interface(polaris_cpld_read',
  gen_require(
    type polaris_sysfs_cpld_t;
    type sysfs_t;
  ')
  read_files_pattern($1, polaris_sysfs_cpld_t, polaris_sysfs_cpld_t)
  # genfscon statement specifically excludes symbolic links from
  # genfscon path specific entries. To workaround, let us allow
  # to follow sysfs_t symbolic links
  allow $1 sysfs_t:lnk_file { read getattr };
  list_dirs_pattern($1, polaris_sysfs_cpld_t, polaris_sysfs_cpld_t)
')

########################################################
## <summary>
##     Write cpld files in /sys directory
## </summary>
## <param name="domain">
##     <summary>
##     Domain allowed access.
## </summary>
## </param>
#
interface(polaris_cpld_write',
  gen_require(
    type polaris_sysfs_cpld_t;
    type sysfs_t;
  ')
  manage_files_pattern($1, polaris_sysfs_cpld_t, polaris_sysfs_cpld_t)
manage_dirs_pattern($1, polaris_sysfs_cpld_t, polaris_sysfs_cpld_t)
# genfscon statement specifically excludes symbolic links from
# genfscon path specific entries. To workaround, let us allow
# to follow sysfs_t symbolic links
allow $1 sysfs_t:lnk_file { read getattr);
')

###############################
## <summary>
## Work (read, write, ioctl) with /dev/cpld
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_cpld_dev_use',
  gen_require(''
    type device_t;
    type polaris_cpld_device_t;
  ')
  write_chr_files_pattern($1, device_t, polaris_cpld_device_t)
  read_chr_files_pattern($1, device_t, polaris_cpld_device_t)
  allow $1 polaris_cpld_device_t:chr_file map;
')

###############################
## <summary>
## Work (read,ioctl) with /dev/cpld
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_cpld_dev_read',
  gen_require(''
    type device_t;
    type polaris_cpld_device_t;
  ')
  read_chr_files_pattern($1, device_t, polaris_cpld_device_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscpld.if
No license file was found, but licenses were detected in source scan.

# August 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscrankshaft, 1.0);

# spa devices i.e sys_platform_module_1ng
type polaris_spa_device_t;
dev_node(polaris_spa_device_t)

# htdp device
type polaris_htdp_device_t;
dev_node(polaris_htdp_device_t)

# bde device (/dev/linux-user-bde)
type polaris_bde_device_t;
dev_node(polaris_bde_device_t)

# dash fpga device (/dev/dash_fpga)
type polaris_dash_device_t;
dev_node(polaris_dash_device_t)

# nios device (/dev/nios)
type polaris_nios_device_t;
dev_node(polaris_nios_device_t)

# qae device (/dev/qae_mem)
type polaris_qae_device_t;
dev_node(polaris_qae_device_t)

# moka fpga device (/dev/moka_fpga)
type polaris_mokafpga_device_t;
dev_node(polaris_mokafpga_device_t)

# sirius fpga device (/dev/sirius_fpga)
type polaris_sirusfpga_device_t;
dev_node(polaris_sirusfpga_device_t);

# moka nim device (/dev/nim_dm*)
type polaris_nim_dm_device_t;
dev_node(polaris_nim_dm_device_t)

# /dev/bp_async device on nanook platform
type polaris_bp_async_device_t;
dev_node(polaris_bp_async_device_t)

# /dev/sparrow_psu device on sparrow platform
type polaris_sparrow_psu_device_t;
dev_node(polaris_sparrow_psu_device_t)

# /dev/nutella_fpga device on nutella platform
type polaris_nutella_fpga_device_t;
dev_node(polaris_nutella_fpga_device_t)

# /dev/huron_fpga on Sumatra platform
type polaris_huron_device_t;
dev_node(polaris_huron_device_t)

# /dev/dplr_sumatra on Sumatra platform
type polaris_sumatra_doppler_device_t;
dev_node(polaris_sumatra_doppler_device_t)

# /tmp/sata_status for mSATA
type polaris_sata_status_tmp_t;
files_tmp_file(polaris_sata_status_tmp_t)

# TSN tsn_platform.tdl for IPCs and processes definition and it uses
# crankshaft_platform.tdl for databases definition. Unfortunately they are
# out of sync wrt BPROC_NGWC_FED - crankshaft_platform.tdl refers it but
# tsn_platform.tdl does not contain such definition.
ifdef(`tsn_platform',`
    type polaris_ngwc_fed_t;
')

# Supernova supernova_platform.tdl for IPCs and processes definition and it uses
# crankshaft_platform.tdl for databases definition. Unfortunately they are
# out of sync wrt BPROC_FM_RP - crankshaft_platform.tdl refers it but
# supernova_platform.tdl does not contain such definition.
ifdef(`supernova_platform',`
    type polaris_fman_rp_t;
')

# Nanook
# The Nanook platform does not support SDWAN and so the SDWAN processes are not
# defined in the nanook_platform.tdl. However, it uses the database_def's from
# the crankshaft_platform.tdl, which do have the SDWAN databases. So we need to
# add the processes to the SELinux policy
ifdef(`nanook_platform',`
    type polaris_cfgmgr_t;
type polaris_cxp_t;
type polaris_dbgd_t;
type polaris_fpm_t;

type polaris_ftm_t;

type polaris_omp_t;

type polaris_sdavc_proxy_t;

type polaris_ttm_t;

type polaris_vdaemon_t;

}  

polaris_process_domain_template(load_usbnet)

# allow polaris_load_usbnet_t access to execute programs in system bin dirs, load
# usbnnet.ko for USB network interface for TSN and allow read access
# to /sys/class/net and /proc/cmdline
# LOOK AT ME: /tmp/rp/pvp/work/inot_fifo inotifywait fd leak to child
corecmd_exec_bin(polaris_load_usbnet_t)
modutils_exec_insmod(polaris_load_usbnet_t)
modutils_list_module_config(polaris_load_usbnet_t)

sysnet_manage_config_dirs(polaris_load_usbnet_t)
polaris_pvp_stdin_read(polaris_load_usbnet_t)
files_read_kernel_modules(polaris_load_usbnet_t)
dev_rw_sysfs(polaris_load_usbnet_t)
kernell_read_system_state(polaris_load_usbnet_t)

# stdout inherited from unconfined_service that might call it
polaris_unconfined_service_fifo_file_manage(polaris_load_usbnet_t)

# handle /tmp/load_usbnet_intf

# allow read of /etc/passwd
# allow map permission
# passwd_file_t:file { getattr open read);
auth_map_passwd(polaris_load_usbnet_t)
# load_usbnet policies end

# CL1: show platform hardware msata <status/info>
ifdef('crankshaft_family',
    gen_require('type polaris_sysfs_ggpio_t;
    type polaris_msata_info_t;
')

polaris_utility_domain_template(msata_info)
polaris_bexecute_domain(polaris_msata_info_t, polaris_msata_info_exec_t)
# need write for pipes like "pipe:[70623]"
corecmd_exec_bin(polaris_msata_info_t)
# need write/getattr for pipes like "pipe:[71322]"
polaris_cmrp_use_fifo(polaris_msata_info_t)
fstools_domtrans(polaris_msata_info_t)
# allow use of mSATA device
polaris_nvram_manage(polaris_msata_info_t)
# allow self
allow polaris_msata_info_t self:capability sys_rawio;
allow polaris_msata_info_t self:process setfscreate;
# allow /usr/sbin/smartctl to access /sys/devices/platform/cpn-110-master/
cpn-110-master:config-space/f2540000.sata/ata2/host1/scsi_host/host1/proc_name and
# /sys/devices/platform/cpn-110-master/cpn-110-master:config-space/f2540000.sata/
# ata2/host1/target1:0:0
read_files_pattern(polaris_msata_info_t, polaris_sysfs_ggpio_t, polaris_sysfs_ggpio_t)
dev_list_sysfs(polaris_msata_info_t)
# allow smartctl to access to /dev/sda to determine its lifetime
storage_raw_read_fixed_disk(polaris_msata_info_t)

# CL1: show platform hardware slot p[x] fan eeprom
polaris_utility_domain_template(smart_fan)
polaris_bexecute_domain(polaris_smart_fan_t, polaris_smart_fan_exec_t)
# allow /ls command
corecmd_exec_bin(polaris_smart_fan_t)
# allow read of /etc/passwd
auth_map_passwd(polaris_smart_fan_t)
# allow read of /sys/devices/platform/nios/*
dev_read_sysfs(polaris_smart_fan_t)
# need write/getattr access for pipes like "pipe:[86004]"
polaris_cmrp_use_fifo(polaris_smart_fan_t)

# sumatra and sparrow platforms need map access for "show platform hardware msata status | lifetime"
auth_map_passwd(polaris_msata_info_t)
')
ifdef(`sumatra_platform',
# During "show platform hardware msata status | lifetime" - msata_info.sh accesses /tmp/sata_status
files_tmp_filetrans(polaris_msata_info_t, polaris_sata_status_tmp_t, file)
manage_files_pattern(polaris_msata_info_t, polaris_sata_status_tmp_t, polaris_sata_status_tmp_t)
')

################################################################################
# show platform hardware msata end
################################################################################

#type for /dev/qcqmiX
type qcqmi_device_t;
device(qcqmi_device_t);

# sm_nim_adpt device (/dev/sm_nim_adpt_xxx )
type polaris_sm_nim_adpt_device_t;
device(polaris_sm_nim_adpt_device_t)

# dio device
type polaris_dio_device_t;
device(polaris_dio_device_t)

# tty NMEA device
type polaris_tty_NMEA_device_t;
device(polaris_tty_NMEA_device_t)

# memory blocks and gpp on Nutella-XE platform
type polaris_nutella_memory_block_p7_t;
device(polaris_nutella_memory_block_p7_t)

type polaris_nutella_memory_block_p1_t;
device(polaris_nutella_memory_block_p1_t)

type polaris_nutella_memory_block_boot_t;
device(polaris_nutella_memory_block_boot_t)

type polaris_nutella_gp0_t;
device(polaris_nutella_gp0_t)

type polaris_nutella_gpp_t;
device(polaris_nutella_gpp_t)

# nim device (/dev/nim_phy)
type polaris_nim_phy_device_t;
device(polaris_nim_phy_device_t)

type polaris_cwan_svr_var_run_t;
files_pid_file(polaris_cwan_svr_var_run_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscrankshaft.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
### <summary>Polaris epc_ws_liaison Policy Rules.</summary>

interface('polaris_epc_ws_liaison_tmp_read',
    gen_require('type polaris_epc_ws_liaison_tmp_t;
        read_files_pattern($1, polaris_epc_ws_liaison_tmp_t, polaris_epc_ws_liaison_tmp_t)
    ')
)

################################
## <summary>
##      Allow to open, write, add_name and write /tmp/epc_ws/fed_to_wif_pipe file.
##      Allow to create and write /tmp/epc_ws dir.
## </summary>
## <param name="domain">
##      <summary>
##      epc_ws_liaison and ngwc-fed fifo_file interaction.
##      </summary>
## </param>
#
interface('polaris_epc_ws_liaison_fifo_manage',
    gen_require('type polaris_epc_ws_liaison_tmp_t;
        manage_dirs_pattern($1, polaris_epc_ws_liaison_tmp_t, polaris_epc_ws_liaison_tmp_t)
        manage_fifo_files_pattern($1, polaris_epc_ws_liaison_tmp_t, polaris_epc_ws_liaison_tmp_t)
    ')
)

################################
##<summary>
## Allow to open, read "/tmp/epc_ws/wif_to_ts_pipe" fifo file.
##
## </summary>
## <param name="domain">
##      <summary>
## epc_ws_liaison and dumpcap fifo_file interaction.

### </summary>
### </param>

```cpp
#interface('polaris_epc_ws_liaison_fifo_read',
    gen_require(
        type polaris_epc_ws_liaison_tmp_t;
    )
    read_fifo_files_pattern($1, polaris_epc_ws_liaison_tmp_t, polaris_epc_ws_liaison_tmp_t)
)
```

### </summary>
### Allow to write, create, unlink "/tmp/*.pcapng" temporary files.
### </summary>
### <param name="domain">
### </summary>
### </param>

```cpp
#interface('polaris_wireshark_show_tmp_manage',
    gen_require(
        type polaris_wireshark_show_tmp_t;
    )
    manage_files_pattern($1, polaris_wireshark_show_tmp_t, polaris_wireshark_show_tmp_t)
)
```

### Create, read, and write temporary files.
### Domain allowed access.
### </summary>
### </param>

```cpp
#interface('polaris_epc_ws_liaison_tmp_file',
    gen_require(
        type polaris_epc_ws_liaison_tmp_t;
    )
    files_tmp_filetrans($1, polaris_epc_ws_liaison_tmp_t, dir, "epc_ws")
)
```

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisepcwsliaison.if
No license file was found, but licenses were detected in source scan.

# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscxp, 1.0);

gen_require(`
    type polaris_cxp_t;
`)
polaris_chasfs_read(polaris_cxp_t)
polaris_cpld_read(polaris_cxp_t)
logging_send_syslog_msg(polaris_cxp_t)

# vconfd_load_shared_schemas
polaris_confd_shared_schema_read(polaris_cxp_t)

corecmd_exec_bin(polaris_cxp_t)
corecmd_exec_shell(polaris_cxp_t)
auth_use_nsswitch(polaris_cxp_t)

# work with /tmp/xml
polaris_cedge_xml_tmp_manage(polaris_cxp_t)

# work with /tmp/tmp
polaris_cedge_tmp_manager(polaris_cxp_t)

# /var/run/cxp dir and pid
type polaris_cxp_var_run_t;
files_pid_file(polaris_cxp_var_run_t)
manage_files_pattern(polaris_cxp_t, polaris_cxp_var_run_t, polaris_cxp_var_run_t)
manage_dirs_pattern(polaris_cxp_t, polaris_cxp_var_run_t, polaris_cxp_var_run_t)
manage_sock_files_pattern(polaris_cxp_t, polaris_cxp_var_run_t, polaris_cxp_var_run_t)
files_pid_filetrans(polaris_cxp_t, polaris_cxp_var_run_t, { file dir sock_file })
polaris_ttm_var_sock_write(polaris_cxp_t)

# vip_execute_nowait uses setgid
allow polaris_cxp_t self:process setgid;

# cxp may create vrf-based netns on demand
polaris_vrf_netns_manager(polaris_cxp_t)
# Allow /usr//cxpd manages /usr/binos/conf/global.service.conf and
# /tmp/dlresolve/
polaris_tdlresolve_manage(polaris_cxp_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscxp.te
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

/usr/binos/conf/viptela-start.sh -- gen_context(system_u:object_r:polaris_cedge_start_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscxedgestart.fc
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
divert(-1)

include(`polaris_process.m4')

include(`polaris_database_db.m4')
include(`polaris_database_db_te.m4')

include(`polaris_max_scope.m4')

divert(0)dnl
#
# This is a generated file! Instead of modifying this file,
# modify proper platform TDL file.
#
policy_module(polarisplatformdbauto, 1.0);

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_database_te.m4
No license file was found, but licenses were detected in source scan.

#
## <summary>Polaris vman Policy Rules.</summary>

```
interface(`polaris_vman_tmp_read',
    gen_require(`
        type polaris_vman_tmp_t;
    `)
    read_files_pattern($1, polaris_vman_tmp_t, polaris_vman_tmp_t)
    `)
```

## <summary>
##      Write files of type polaris_vman_tmp_t (e.g., /tmp/cgroup.log)
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>

```
interface(`polaris_vman_tmp_write',
    gen_require(`
        type polaris_vman_tmp_t;
    `)
    write_files_pattern($1, polaris_vman_tmp_t, polaris_vman_tmp_t)
    `)
```

## <summary>
##      Manage dir/files of type polaris_vman_tmp_t (e.g., /tmp/cgroup.log)
## </summary>
## <param name="domain">
```
## Domain allowed access.

```typescript
interface('polaris_vman_tmp_manage',
gen_require('type polaris_vman_tmp_t;
')
manage_files_pattern($1, polaris_vman_tmp_t, polaris_vman_tmp_t)
manage_dirs_pattern($1, polaris_vman_tmp_t, polaris_vman_tmp_t)
')
```

## Read files of type polaris_disk_vman_t (e.g., /bootflash/virtual-instance/)

```typescript
interface('polaris_disk_vman_read',
gen_require('type polaris_disk_vman_t;
')
read_files_pattern($1, polaris_disk_vman_t, polaris_disk_vman_t)
read_lnk_files_pattern($1, polaris_disk_vman_t, polaris_disk_vman_t)
list_dirs_pattern($1, polaris_disk_vman_t, polaris_disk_vman_t)
')
```

## List files of type polaris_disk_vman_t (e.g., /bootflash/virtual-instance/)

```typescript
interface('polaris_disk_vman_dir_list',
gen_require('type polaris_disk_vman_t;
type polaris_disk_bootflash_t;
type polaris_disk_harddisk_t;
')
```
list_dirs_pattern($1, { polaris_disk_vman_t polaris_disk_bootflash_t polaris_disk_harddisk_t },
  polaris_disk_vman_t)
 ')

#######################################
## <summary>
## Operate on @vman_domain_socket unix socket. Look at
## vman_clnt_msg_transport_init function in vman_clnt_msg_uds.c
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_vman_use_client_socket',`
   gen_require(
      type polaris_vman_t;
   ')
   allow $1 polaris_vman_t:unix_stream_socket connectto;
')

#######################################
## <summary>
## Manage /tmp/xml/
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolebase/>
#
interface(`polaris_vman_log_files_manage',`
optional_policy(`
   gen_require(
      type polaris_vman_log_t;
   ')
   manage_files_pattern($1, polaris_vman_log_t,polaris_vman_log_t)
   manage_dirs_pattern($1, polaris_vman_log_t,polaris_vman_log_t)
')
')

#######################################
## <summary>
## Read files of type polaris_var_vman_t (e.g., /var/virtual-instance)
interface(`polaris_vman_var_read',`
    gen_require(`
        type polaris_var_vman_t;
    ')
    list_dirs_pattern($1, polaris_var_vman_t, polaris_var_vman_t)
    read_files_pattern($1, polaris_var_vman_t, polaris_var_vman_t)
')

interface(`polaris_vman_use_fifo',`
    gen_require(`
        type polaris_vman_t;
    ')
    read_fifo_files_pattern($1, polaris_vman_t, polaris_vman_t)
    write_fifo_files_pattern($1, polaris_vman_t, polaris_vman_t)
')

interface(`polaris_vman_bt_getattr',`
gen_require(
    type polaris_vman_bt_t;
    type polaris_btrace_base_t;
  )
getattr_files_pattern($1, polaris_btrace_base_t, polaris_vman_bt_t)
)

#<summary>#
# Allow domain to write to pipes connected to virtlogd_t.
#</summary>
#<param name="domain">#
# Domain allowed access.
#</param>#
interface('polaris_vman_virtlog_allow',
  gen_require(
    type virtlogd_t;
  )

#allow domain to write to pipes
allow $1 virtlogd_t:fifo_file rw_inherited_fifo_file_perms;

#allow virtlogd_t to search dirs /var/log/libvirt/qemu
logging_search_logs(virtlogd_t)
)

#<summary>#
# Allow polaris_vman_t to kill process from domain.
#</summary>
#<param name="domain">#
# Domain allowed access.
#</param>#
interface('polaris_vman_kill_process',
  gen_require(
    type polaris_vman_t;
  )
  allow polaris_vman_t $1:process sigkill;
)
No license file was found, but licenses were detected in source scan.

#
# August 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris tws Policy Rules.</summary>

########################################################################
### <summary>
###   Allow the specified domain to manage KGV data files
### I.e /tmp/package_biv sums.
### </summary>
### <param name="domain">
###   Domain allowed access.
### </param>
#
# interface('polaris_kgv_data_manage',
#   gen_require(
#     type polaris_kgv_data_t;
#   ')
#
#   manage_files_pattern($1, polaris_kgv_data_t, polaris_kgv_data_t)
#   allow $1 polaris_kgv_data_t:file map;
#)

########################################################################
### <summary>
###   Execute a domain transition to run code_sign_verify
### </summary>
### <param name="domain">
###   Domain allowed to transition.
### </param>
#
# interface('polaris_code_verify_domtrans',
#   gen_require(
#     type polaris_code_verify_t, polaris_code_verify_exec_t;
#   ')
#
#   domtrans_pattern($1, polaris_code_verify_exec_t, polaris_code_verify_t)
### <summary>
## Execute a domain transition to the polaris_hw_upgrade
### </summary>
### <param name="domain">
### <summary>
## Domain allowed to transition.
### </summary>
#
#
interface('polaris_hw_upgrade_domtrans',
    gen_require('`
        type polaris_hw_upgrade_t, polaris_hw_upgrade_exec_t;
    `')
    corecmd_search_bin($1)
    domtrans_pattern($1, polaris_hw_upgrade_exec_t, polaris_hw_upgrade_t)
')

### <summary>
## Work (read, write, ioctl) with /dev/aikido device
### </summary>
### <param name="domain">
### <summary>
## Domain allowed access.
### </summary>
#
#
interface('polaris_aikido_dev_use',
    gen_require('`
        type device_t;
        type polaris_aikido_device_t;
    `')
    write_chr_files_pattern($1, device_t, polaris_aikido_device_t)
    read_chr_files_pattern($1, device_t, polaris_aikido_device_t)
')

### <summary>
## Execute a domain transition to the polaris_rom_upgrade
### </summary>
### <param name="domain">
### <summary>
## Domain allowed to transition.
### </summary>
interface('polaris_rom_upgrade_domtrans',
    gen_require(
        type polaris_hw_upgrade_t, polaris_rom_upgrade_exec_t;
    ')
)

corecmd_search_bin($1)
domtrans_pattern($1, polaris_rom_upgrade_exec_t, polaris_rom_upgrade_t)
')

## <summary>
## Write into fifo file created during rommon_upgrade
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolecap/>
#
interface('polaris_rom_upgrade_use_fifo',
    gen_require('  type polaris_rom_upgrade_t;
')
    write_fifo_files_pattern($1, polaris_rom_upgrade_t, polaris_rom_upgrade_t)
')

## <summary>
## Work (read, write, ioctl) with /dev/scansta device
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_scansta_dev_use',
    gen_require('
        type device_t;
        type polaris_scansta_device_t;
')
    write_chr_files_pattern($1, device_t, polaris_scansta_device_t)
    read_chr_files_pattern($1, device_t, polaris_scansta_device_t)
')
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristws.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

/tmp/*chasfs(/.*)? gen_context(system_u:object_r:polaris_chasfs_t,s0)

/tmp/chassis/local/*chasfs(/.*)? gen_context(system_u:object_r:polaris_chasfs_t,s0)
/tmp/chassis gen_context(system_u:object_r:polaris_chasfs_t,s0)
/tmp/chassis(/.*)? gen_context(system_u:object_r:polaris_chasfs_t,s0)

/tmp/*chasync(/.*)? gen_context(system_u:object_r:polaris_chasync_tmp_t,s0)
/vol/harddisk/sys_report(/.*)? gen_context(system_u:object_r:polaris_chasync_files_t,s0)
/vol/harddisk/fp_cc_crash(/.*)? gen_context(system_u:object_r:polaris_chasync_files_t,s0)
/var/log/chasync(/.*)? gen_context(system_u:object_r:polaris_chasync_log_t,s0)
/usr/binos/conf/chasync.sh -- gen_context(system_u:object_r:polaris_chasync_exec_t,s0)

# real path is /etc/init.d/chasfs_boottime.sh but we need to add rc.d because
# in file_contexts.subs_dist we have substitute rule for /etc/init.d/
/etc/rc.d/init.d/chasfs_boottime.sh -- gen_context(system_u:object_r:polaris_chasfs_boottime_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarischasfs.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

/tmp/.CRDU_COMMANDPIPE gen_context(system_u:object_r:polaris_crdu_pipe_tmp_t,s0)
/tmp/.CRDU_RESPONSEPIPE gen_context(system_u:object_r:polaris_crdu_pipe_tmp_t,s0)
/usr/binos/conf/trans_ports_helper.sh -- gen_context(system_u:object_r:polaris_trans_ports_helper_exec_t,s0)
/usr/binos/conf/trans_stats_helper.sh -- gen_context(system_u:object_r:polaris_trans_stats_helper_exec_t,s0)
/usr/binos/conf/mcp_disk_oir.sh -- gen_context(system_u:object_r:polaris_disk_oir_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissmand.fc
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarissmand, 1.0);

gen_require('  
    type polaris_smant;
    type polaris_smant_exec_t;
')

  polaris_btrace_data_manage(polaris_smant_t)
  polaris_crft_data_manage(polaris_smant_t)
  polaris_chasfs_manage(polaris_smant_t)
  polaris_tdlresolve_read(polaris_smant_t)
  polaris_tdlldb_list_dirs(polaris_smant_t)
  polaris_cpld_read(polaris_smant_t)
  polaris_lua_read(polaris_smant_t)
  polaris_flashlib_read(polaris_smant_t)

  polaris_send_signal_to_bexecute(polaris_smant_t)

  polaris_ripc_sman_ui_serv_connect(polaris_smant_t)

  polaris_db_tdlldb_dir_use(polaris_smant_t)

type polaris_crdu_pipe_tmp_t;
files_tmp_file(polaris_crdu_pipe_tmp_t)
files_tmp_filetrans(polaris_smant_t, polaris_crdu_pipe_tmp_t, fifo_file, "CRDU_COMMAND_PIPE")
files_tmp_filetrans(polaris_smant_t, polaris_crdu_pipe_tmp_t, fifo_file, "CRDU_RESPONSE_PIPE")
polaris_smant_crdu_pipe_manage(polaris_smant_t)

# work with /tmp/sman files

type polaris_smant_tmp_t;
files_tmp_file(polaris_smant_tmp_t)
manage_dirs_pattern(polaris_smant_t, polaris_smant_tmp_t, polaris_smant_tmp_t)
manage_files_pattern(polaris_smant_t, polaris_smant_tmp_t, polaris_smant_tmp_t)
files_tmp_filetrans(polaris_smant_t, polaris_smant_tmp_t, { file dir })

# allow read of /etc/group
auth_use_nsswitch(polaris_smant_t)

# allow to send message to /dev/log
logging_send_syslog_msg(polaris_smand_t)

# allow objstore access
polaris_disk_objstore_read(polaris_smand_t)

# on edison smand shares sysv semaphore with iosd, why sem got initrc_t label
# is not clear.
gen_require(
    type initrc_t;
)
allow polaris_smand_t initrc_t:sem { read write unix_write associate };

# why smand needs all these capability?
allow polaris_smand_t self:capability { dac_override chown fsetid };
allow polaris_smand_t self:capability2 block_suspend;
allow polaris_smand_t self:capability sys_resource;

# on edison smand wants to read /proc/mtd which is proc_t
# type=AVC msg=audit(1478481219.216:6): avc: denied { read } for pid=5410 comm="smand" name="mtd"
# dev="proc" ino=402635811 scontext=system_u:system_r:polaris_smand_t:s0
tcontext=system_u:object_r:proc_t:s0 tclass=file
# try to drop it latter
kernel_read_system_state(polaris_smand_t)

# on edison silent roll package is still in iso format
# type=AVC msg=audit(1478497356.229:7): avc: denied { getattr } for pid=5816 comm="smand"
# path="/tmp/sw/mount/cat3k_caa-srdriver.2016-11-06_21.10_kamensky.SSA.pkg/usr/binos/lib64"
device=loop7
ino=3456 scontext=system_u:system_r:polaris_smand_t:s0 tcontext=system_u:object_r:iso9660_t:s0 tclass=dir

gen_require(
    type iso9660_t;
)
allow polaris_smand_t iso9660_t:dir { search getattr };

polaris_dyncfg_tmp_read(polaris_smand_t)
corecmd_exec_shell(polaris_smand_t)

# CLI "Show install issu history" invokes /usr/binos/conf/install_issu_show.py which
# needs /usr/bin/python3(bin file) execution
corecmd_exec_bin(polaris_smand_t)

# smand execute install_show.sh in its own domain need read results
polaris_install_show_tmp_read(polaris_smand_t)

# during boot issu_boottime.sh calls smand to obtain some information
gen_require(
    type unconfined_service_t;
)
domtrans_pattern(unconfined_service_t, polaris_sm_t, polaris_sm_t)

# system_stats_periodic function from sman/src/fru_stats.c does
# ioctl(fd, SIOCGIFADDR, &ifr); on "system" interface name, which normally
# does not exist in Polaris platforms
kernel_dontaudit_request_load_module(polaris_sm_t)

# system_stats_periodic function from sman/src/fru_stats.c does
# statfs64 for /flash directory
fs_getattr_xattr_fs(polaris_sm_t)
polaris_disk_bootflash_read_link(polaris_sm_t)
polaris_disk_bootflash_search(polaris_sm_t)

gen_require(
    type rsync_t;
    '
)
# upon exec rsync inherits smand's stdout/stderr fifo files
allow rsync_t polaris_sm_t:fifo_file write;

gen_require(
    type polaris_bshell_t;
    '
)polaris_chasfs_read(polaris_bshell_t)
polaris_tdlresolve_read(polaris_bshell_t)

# bshell memory logs related
type polaris_memmon_tmp_files_t;
files_tmp_file(polaris_memmon_tmp_files_t)
files_tmp_filetrans(unconfined_service_t, polaris_memmon_tmp_files_t, dir, "memmon_logs")
## give bshell permissions
manage_files_pattern(polaris_bshell_t, polaris_memmon_tmp_files_t, dir, "memmon_logs")

# sman needs to access gnmib gnoi images
optional_policy(
    polaris_gnmib_gnoi_images_read(polaris_sm_t)
    ')

# CLI "Show install issu history" access to "/bootflash/installer/install_issu_history"
# and "/tmp/show_install_output.txt"
polaris_install_engine_domtrans(polaris_sm_t)
polaris_install_show_domtrans(polaris_sm_t)

# xcopy_script gets called for xcopy RPC data model
polaris_xcopy_script_domtrans(polaris_sm_t)

#
# "sh ip ports" CLI policies, execute trans_ports_helper.sh script
polaris_utility_domain_template(trans_ports_helper)
# transit into the domain
domtrans_pattern(polaris_smand_t, polaris_trans_ports_helper_exec_t, polaris_trans_ports_helper_t)
# binary tracing fifo_file as standard output
polaris_use_btrace_fifo(polaris_trans_ports_helper_t)
# execute "tail" command
corecmd_exec_bin(polaris_trans_ports_helper_t)
corecmd_exec_shell(polaris_trans_ports_helper_t)
polaris_proc_fd_all_getattr(polaris_trans_ports_helper_t)
# getattr all polaris_domain
domain_getattr_all_domains(polaris_trans_ports_helper_t)
# run mcp_chvrf.sh without transition
polaris_exec_chvrf(polaris_trans_ports_helper_t)
fs_read_nsfs_files(polaris_trans_ports_helper_t)

# ls/ of options tcp reads /proc/net/raw
kernel_read_network_state(polaris_trans_ports_helper_t)
# ls access to /proc/3792/fd/6 triggers sys_ptrace capability
allow polaris_trans_ports_helper_t self:capability { sys_ptrace }

# allow file and directory read and execute permission checks
allow polaris_trans_ports_helper_t self:capability dac_read_search;

# map /etc/passwd
auth_use_nsswitch(polaris_trans_ports_helper_t)

type polaris_trans_ports_tmp_t;
files_tmp_file(polaris_trans_ports_tmp_t)
# create /tmp/trans_ports_tmp and /tmp/trans_ports_result
files_tmp_filetrans(polaris_trans_ports_helper_t, polaris_trans_ports_tmp_t, file, "show_ports_tmp")
files_tmp_filetrans(polaris_trans_ports_helper_t, polaris_trans_ports_tmp_t, file, "show_ports_result")
polaris_trans_ports_tmp_manage(polaris_trans_ports_helper_t)
# smand open and unlinks /tmp/trans_ports_tmp
polaris_trans_ports_tmp_manage(polaris_smand_t)

# =
# "show platform software kernel ... " CLI executes trans_stats_helper.sh. Need domain
# transition
#
polaris_utility_domain_template(trans_stats_helper)
# transit into the domain
domtrans_pattern(polaris_smand_t, polaris_trans_ports_helper_exec_t, polaris_trans_stats_helper_t)
# binary tracing fifo_file as standard output
polaris_use_btrace_fifo(polaris_trans_stats_helper_t)
# execute ls/of in helper script
corecmd_exec_bin(polaris_trans_stats_helper_t)
corecmd_exec_shell(polaris_trans_stats_helper_t)
auth_use NSS(polaris_trans_stats_helper_t)
# lsof reads /proc/*fd/* attributes
polaris_proc_fd_all_getattr(polaris_trans_stats_helper_t)

# lsof options tcp reads /proc/net/raw
kernel_read_network_state(polaris_trans_stats_helper_t)

# lsof reads /proc/locks
kernel_read_system_state(polaris_trans_stats_helper_t)

# lsof readmnt
fs_read_nsfs_files(polaris_trans_stats_helper_t)

# ls access to /proc/3792/fd/6 triggers sys_ptrace capability
# and dac_read_search as well.
allow polaris_trans_stats_helper_t self:capability { sys_ptrace dac_read_search };

type polaris_trans_stats_tmp_t;
files_tmp_file(polaris_trans_stats_tmp_t)
# create /tmp/trans_tmp and /tmp/trans_tmp.1 to store lsof output
files_tmp_filetrans(polaris_trans_stats_helper_t, polaris_trans_stats_tmp_t, file, "trans_tmp")
files_tmp_filetrans(polaris_trans_stats_helper_t, polaris_trans_stats_tmp_t, file, "trans_tmp.1")
polaris_trans_stats_tmp_manage(polaris_trans_stats_helper_t)
# smand open and unlinks /tmp/trans_tmp
polaris_trans_stats_tmp_manage(polaris_smand_t)

# run mcp_chvrf.sh without transition
polaris_exec_chvrf(polaris_trans_stats_helper_t)

#
================================================================================================
==============
# CLI "request platform hardware filesystem harddisk: offline | online" which runs mcp_disk_oir.sh

polaris_utility_domain_template(disk_oir)
polaris_bexecute_domain(polaris_disk_oir_t, polaris_disk_oir_exec_t)

#execute lsof
corecmd_exec_bin(polaris_disk_oir_t)

# This is a CLI script that access types and /proc/pid/fd/*
polaris_proc_fd_all_getattr(polaris_disk_oir_t)

# access sysctl_rpc_t
kernel_read_rpc_sysctls(polaris_disk_oir_t)

# reads /proc/net/*
kernel_read_network_state(polaris_disk_oir_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_disk_oir_t)

# lsof readmnt
fs_read_nsfs_files(polaris_disk_oir_t)

# inherits stdin/stdout of pty opened by telnetd
telnet_use_ptys(polaris_disk_oir_t)

allow polaris_disk_oir_t self:capability { dac_read_search sys_nice sys_rawio }
allow polaris_disk_oir_t self:process { setfscreate setsched }

# execute lvm commands
lvm_domtrans(polaris_disk_oir_t)

# "lsf -nP"read /dev/sda1 (/csl_p_0) and other operations when disk is destroyed.
storage_manage_fixed_disk(polaris_disk_oir_t)

# access /tmp/chassis/cpld/chasfs
polaris_chasfs_read(polaris_disk_oir_t)

#cat /tmp/chassis/cpld/chasfs/platform_type'
polaris_cpld_read(polaris_disk_oir_t)

#'/bin/rm -rf /tmp/udev/etc/udev/harddisk'
fs_getattr_tmpfs(polaris_disk_oir_t)

# access /tmp/udev/etc/udev/harddisk'
polaris_udev_tmp_manage(polaris_disk_oir_t)

# /bin/mkdir -p /tmp/udev_cache/harddisk
files_tmp_filetrans(polaris_disk_oir_t, polaris_udev_tmp_files_t, dir, "udev_cache")

# systemctl start handle_mount@vol-harddisk.service, communiate with sysemd
systemd_exec_systemctl(polaris_disk_oir_t)

# mount /dev/harddisk1 /vol/harddisk
mount_domtrans(polaris_disk_oir_t)

# read /proc/cmdline
kernel_read_all_proc(polaris_disk_oir_t)

# system service start/stop: /lib/systemd/system/handle_mount@.service
systemd_config_generic_services(polaris_disk_oir_t)

#/sbin/hdparm -S 0 /dev/sdb, execute hdparm in its own domain
fstools_domtrans(polaris_disk_oir_t)
ifdef('crankshaft_family',
    gen_require(
        type device_t;
        type udev_t;
    )
) filetrans_pattern( {udev_t polaris_disk_oir_t}, device_t, fixed_disk_device_t, lnk_file, "harddisk")
filetrans_pattern( {udev_t polaris_disk_oir_t}, device_t, fixed_disk_device_t, lnk_file, "harddisk1")
manage_lnk_files_pattern(polaris_disk_oir_t, fixed_disk_device_t, fixed_disk_device_t)
# /dev/harddisk may be labeled with device_t. The "unlink" AVC denial will be fixed when it is labeled correctly

#ifdef('petra_platform',
    #allow access to polaris_cm_rp sem
    polaris_cm_rp_sem_use(polaris_smand_t)
    #allow access to /flash12/moncfg/cfg.dat
    polaris_swipedrive_file_manage(polaris_smand_t)
    #allow access to /flash6/moncfg/cfg.dat
    polaris_nvram_read(polaris_smand_t)
) dmesg_domtrans(polaris_smand_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissmand.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# pci rescan shm file
/dev/shm/rescan_shm gen_context(system_u:object_r:polaris_cm_cc_tmpfs_t,s0)
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmcc.fc
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris mobilityd Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismobilityd.if
No license file was found, but licenses were detected in source scan.

#
# September 2018, Anubha Balani
#
# Copyright (c) 2018-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarismemory, 1.0);

#############################################################################
# Polaris memory: libmaroon and such
#############################################################################

attribute polaris_maroon_data_domain;

type polaris_maroon_base_t;
files_type(polaris_maroon_base_t)

typeattribute polaris_maroon_base_t polaris_maroon_data_domain;

gen_require(
    attribute polaris_extended_domain;
)

files_tmp_filetrans(polaris_extended_domain, polaris_maroon_base_t, dir, "maroon_stats")

type polaris_zram_device_t;
dev_node(polaris_zram_device_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismemory.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisemd file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisemd.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris nif_mgr Policy Rules.</summary>

######################################
## <summary>
##      Use /tmp/sv directory and files. Currently this acts as a
##      chasfs root for information shared between the nif manager
##      and the fed.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_sv_tmp_use`,
    gen_require(`
        type polaris_sv_tmp_t;
        type tmp_t;
    `)
)
manage_dirs_pattern($1, tmp_t, polaris_sv_tmp_t)
manage_files_pattern($1, polaris_sv_tmp_t, polaris_sv_tmp_t)
allow $1 polaris_sv_tmp_t:dir watch;
`
## <summary>
##    This is to allow creation and write to
##    doppler_sesa file under proc
##
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_proc_sesa_create_write',
    gen_require(
        type polaris_proc_sesa_t;
    ')
    setattr_files_pattern($1, polaris_proc_sesa_t, polaris_proc_sesa_t)
    rw_files_pattern($1, polaris_proc_sesa_t, polaris_proc_sesa_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.10/selinux-tar/selinux/polarisnifmgr.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/btdecode -- gen_context(system_u:object_r:polaris_btdecode_exec_t,s0)
/usr/binos/conf/bttail -- gen_context(system_u:object_r:polaris_btdecode_exec_t,s0)
/usr/binos/conf/mcp_trace_filter.sh -- gen_context(system_u:object_r:polaris_trace_filter_exec_t,s0)
/usr/binos/conf/mcp_trace_request.sh -- gen_context(system_u:object_r:polaris_trace_request_exec_t,s0)
/usr/binos/bin/create_luid_file_db -- gen_context(system_u:object_r:polaris_create_ldb_exec_t,s0)
/tmp/btrace_luids_file.cdb.tmp  -- gen_context(system_u:object_r:polaris_ldb_tmp_t,s0)
/tmp/btrace_luids_file.cdb  -- gen_context(system_u:object_r:polaris_ldb_tmp_t,s0)
/tmp/cc/0/trace(/.*)?     gen_context(system_u:object_r:polaris_btrace_base_t,s0)
/tmp/cc/0/trace/fifo(/.*)? gen_context(system_u:object_r:polaris_fifo_stdout_base_t,s0)
/tmp/fp/trace(/.*)?     gen_context(system_u:object_r:polaris_btrace_base_t,s0)
/tmp/fp/trace/fifo gen_context(system_u:object_r:polaris_fifo_stdout_base_t,s0)
/tmp/rp/trace(/.*)?     gen_context(system_u:object_r:polaris_btrace_base_t,s0)
/tmp/rp/trace/fifo gen_context(system_u:object_r:polaris_fifo_stdout_base_t,s0)
# September 2017, Victor Kamensky

# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved

# polarisunconfined file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbtrace.fc
No license file was found, but licenses were detected in source scan.

policy_module(polarisdbgd, 1.0);

    gen_require(
        type polaris_dbgd_t;
    )

polaris_chasfs_read(polaris_dbgd_t)
polaris_tdlresolve_read(polaris_dbgd_t)
polaris_cpld_read(polaris_dbgd_t)

logging_send_syslog_msg(polaris_dbgd_t)

# vconfd_load_shared_schemas
polaris_confd_shared_schema_read(polaris_dbgd_t)

# /var/run/dbgd socket and pid
type polaris_dbgd_var_run_t;
files_pid_file(polaris_dbgd_var_run_t)
manage_files_pattern(polaris_dbgd_t, polaris_dbgd_var_run_t, polaris_dbgd_var_run_t)
manage_sock_files_pattern(polaris_dbgd_t, polaris_dbgd_var_run_t, polaris_dbgd_var_run_t)
files_pid_filetrans(polaris_dbgd_t, polaris_dbgd_var_run_t, { file sock_file })

polaris_vdaemon_var_sock_write(polaris_dbgd_t)

# dbgd may create vrf-based netns on demand
polaris_vrf_netns_manage(polaris_dbgd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdbgd.te
No license file was found, but licenses were detected in source scan.

#
# March 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris JVM Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisjvm.if
No license file was found, but licenses were detected in source scan.

# All rights reserved

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisinstall.te
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristws.te
No license file was found, but licenses were detected in source scan.

#
# December 2018, Victor Kamensky
#
# Copyright (c) 2018-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisezmancc, 1.0);

gen_require('type polaris_ezman_cc_t;')

polaris_chasfs_read(polaris_ezman_cc_t)
polaris_cpld_read(polaris_ezman_cc_t)
polaris_tdlresolve_read(polaris_ezman_cc_t)
polaris_ripe_sman_ui_serv_connect(polaris_ezman_cc_t)

allow polaris_ezman_cc_t self:capability dac_override;

polaris_oob_evfc_dev_use(polaris_ezman_cc_t)
# LOOK AT ME by some reason relabeling of /dev/ezlkm
# device files does not work
dev_rw_generic_chr_files(polaris_ezman_cc_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisezmancc.te
No license file was found, but licenses were detected in source scan.

#
# Oct 2020, Xin Xiang
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisdoppler, 1.0);

# doppler interrupt device
type polaris_dplr_device_t;
dev_node(polaris_dplr_device_t)

# dma mmap device
type polaris_dmammap_device_t;
dev_node(polaris_dmammap_device_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdoppler.te
No license file was found, but licenses were detected in source scan.

#
# Nov 2020, Swati Kumari
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris PTPD Policy Rules.</summary>

### <summary>Polaris PTPD Policy Rules.</summary>

#############################################################
### <summary>
###   Work (read, write, ioctl) with /dev/b1zi_fpga
### </summary>
### <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_blzi_dev_use',
    gen_require(
        type device_t;
        type polaris_blzi_device_t;
    '
    write_chr_files_pattern($1, device_t, polaris_blzi_device_t)
    read_chr_files_pattern($1, device_t, polaris_blzi_device_t)
    allow $1 polaris_blzi_device_t:chr_file map;
    ')
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisptpdp.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris cpp_cp Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppcp.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscppdriver, 1.0);

gen_require(
    type polaris_cpp_driver_t;
    ')

polaris_btrace_data_manage(polaris_cpp_driver_t)
polaris_crft_data_manage(polaris_cpp_driver_t)
polaris_chasfs_manage(polaris_cpp_driver_t)
polaris_tdlresolve_read(polaris_cpp_driver_t)
polaris_tlddb_list_dirs(polaris_cpp_driver_t)
polaris_cpld_read(polaris_cpp_driver_t)
polaris_flashlib_read(polaris_cpp_driver_t)
polaris_ripc_sman_ui_serv_connect(polaris_cpp_driver_t)
polaris_cpp_process(polaris_cpp_driver_t)
polaris_cpp_dev_use(polaris_cpp_driver_t)

# allow read variety of system information from sysfs
# type=AVC msg=audit(1479601620.503:19): avc: denied { open } for pid=22839 comm="cpp_driver"
# path="/sys/devices/system/node/node0/meminfo" dev="sysfs" ino=805
# scontext=system_u:system_r:polaris_cpp_driver_t:s0 tcontext=system_u:object_r:sysfs_t:s0 tclass=file
dev_read_sysfs(polaris_cpp_driver_t)

optional_policy(
    # cpp_driver reads qfp executable to look at .stabs sections that
    # contains qfp code fixups, then this fixup data is passed to kernel
    # module to modify qfp code.
gen_require(
        type bin_t;
        type polaris_qfp_exec_t;
    ')
read_files_pattern(polaris_cpp_driver_t, bin_t, polaris_qfp_exec_t)
')
polaris_icc_broken_relocations(polaris_cpp_driver_t)

# work with /dev/i2c devices
polaris_i2c_use(polaris_cpp_driver_t)
polaris_cpp_cavium_sdk_ipc_use(polaris_cpp_driver_t)
logging_send_syslog_msg(polaris_cpp_driver_t)

# LOOK AT ME: raw memory access in cavium vendor SDK
# related to octeon driver (BUG CSCvh58515)
ifdef(`crankshaft_family',
    polaris_dev_mem_use(polaris_cpp_driver_t)
')

# allow access to /tmp/octeon-remote-lock-pci***
# This is required as part of cpp_driver access of octeon chip.
# As part of the init, call is made to octeon_remote_lock()
# which requires access to the /tmp file.
ifdef(`crankshaft_family',
polaris_cm_fp_tmp_filetrans(polaris_cpp_driver_t)
```cpp
polaris_cm_fp_tmp_manage(polarisCppDriver_t)
'

//# LOOK AT ME on overlord cpp_driver needs access to /dev/cavium_e
//# and /dev/pcie0 devices, on 1ng cpp_driver needs access to
//# /dev/yoda0_tree2, etc
dev_rw_generic_chr_files(polarisCppDriver_t)

#/dev/cpp_il on qwlc
optional_policy(
    polarisCppIl_dev_use(polarisCppDriver_t)
')

ifdef('qwlc_platform',
    polarisCpld_dev_use(polarisCppDriver_t)
')

ifdef('katar_platform',
    polarisCpld_dev_use(polarisCppDriver_t)
')

ifdef('mcp_family',
    polarisCpld_dev_use(polarisCppDriver_t)
')

optional_policy(
    polarisCppHtdp_dev_use(polarisCppDriver_t)
polarisCbdma_dev_use(polarisCppDriver_t)
polarisCppHtdp_dev_use(polarisCppDriver_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppdriver.te
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris odm_proxy Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisodmproxy.if
No license file was found, but licenses were detected in source scan.
```
policy_module(polarisbtrace, 1.0);

# persistent btrace files stored under btrace_data
type polaris_btrace_data_t;
files_type(polaris_btrace_data_t)

# allow btrace data file reside on persistent storage
polaris_pfile_type(polaris_btrace_data_t)

type polaris_fifo_stdout_t;
files_type(polaris_fifo_stdout_t)

type polaris_fifo_stdout_base_t;
files_type(polaris_fifo_stdout_base_t)

attribute polaris_btrace_data_domain;

type polaris_btrace_base_t;
files_type(polaris_btrace_base_t)

typeattribute polaris_btrace_base_t polaris_btrace_data_domain;
typeattribute polaris_btrace_data_t polaris_btrace_data_domain;

# is "trace" in tmp_t specific enough? Maybe we would need to change it in polaris
files_tmp_filetrans(polaris_extended_domain, polaris_btrace_base_t, dir, "trace")
# udev -> cat9k-ssd.mount -> unifiedfs_rsync_udev.sh -> btrace.sh might also create this dir
files_tmp_filetrans(udev_t, polaris_btrace_base_t, dir, "trace")
filetrans_pattern(polaris_extended_domain, polaris_pvp_tmp_t, polaris_btrace_base_t, dir, "trace")

# filetrans_pattern(polaris_extended_domain, polaris_btrace_base_t, polaris_fifo_stdout_base_t, dir, "fifo")
filetrans_pattern(domain, polaris_btrace_base_t, polaris_fifo_stdout_base_t, dir, "fifo")
filetrans_pattern(domain, polaris_fifo_stdout_base_t, polaris_fifo_stdout_t, fifo_file)
manage_dirs_pattern(polaris_extended_domain, polaris_btrace_base_t, polaris_fifo_stdout_base_t)

polaris_utility_domain_template(btdecode)

# any polaris process except iosd can execve btdecode utility to decode its own traces
gen_require(
    attribute polaris_domain;
    type polaris_iosd_t;
')
domtrans_pattern(polaris_domain - polaris_iosd_t, polaris_btdecode_exec_t, polaris_btdecode_t)
corecmd_check_exec_shell(polaris_domain - polaris_iosd_t)

# btdecode not only reads btrace files, but also creates copy of the file
polaris_btrace_data_manage_all(polaris_btdecode_t)
polaris_btrace_persistent_data_manage(polaris_btdecode_t)
polaris_btrace_fifo(polaris_btdecode_t)
polaris_tdlresolve_read(polaris_btdecode_t)
polaris_boot_tmp_read(polaris_btdecode_t)
polaris_lua_read(polaris_btdecode_t)
polaris_chasfs_read(polaris_btdecode_t)
polaris_cpld_read(polaris_btdecode_t)
polaris_bootflash_manage(polaris_btdecode_t)

# lua files need to read executables to retrieve btrace meta informations
files_mmap_all_files(polaris_btdecode_t)

# could be called on trace files on persistent storage
polaris_persistent_read(polaris_btdecode_t)

# need to read executables to retrieve btrace meta informations
polaris_read_exec_domain(polaris_btdecode_t)
corecmd_exec_bin(polaris_btdecode_t)
corecmd_exec_shell(polaris_btdecode_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_btdecode_t)

# executes luajit
allow polaris_btdecode_t self:process execmem;
# tmp files created by /lua/btdecode.lua in /tmp
# Allow btdecode to read/write /dev/pts/*
term_use_generic_ptys(polaris_btdecode_t)

# btrace_rotate calls ftw function through create_luid_file_db utility
# that walks whole file tree in order to create btrace_luids_file.cdb
# let's have separate domain for this utility
polaris_utility_domain_template(create_ldb)

# creates files like btrace_luids_file.cdb_20170907160108.tmp, btrace_luids_file.cdb
# type polaris_ldb_tmp_t;
files_tmp_file(polaris_ldb_tmp_t)

# /lua/btdecode.lua may call create_luid_file_db on demand
# in some cases it runs with telnet /dev/ptyN as stdin/stdout
# example when executed on other node, or "monitor log profile"
# command
telnet_use_ptys(polaris_btdecode_t)

# Allow btdecode to read/write /tmp/btdecode_tmp_t
files_tmp_file(polaris_btdecode_tmp_t)

# Allow btdecode to watch over /bootflash/tracelogs, /vol/harddisk/tarcelogs and /flash2/CRASH/tracelogs
polaris_btrace_data_watch(polaris_btdecode_t)

# Allow btdecode to watch over /usr/binos/conf
files_watch_usr_dirs(polaris_btdecode_t)

# Allow btdecode to access UFS mounted directories for other members
optional_policy('polaris_ncd_tmp_read(polaris_btdecode_t)')

# allow luid database scripts to read/write /dev/pts/*
term_use_generic_ptys(polaris_create_ldb_t)

# /lua/btdecode.lua in /tmp
# Create tmp files for /tmp/btdecode_tmp_t
files_tmp_file(polaris_btdecode_tmp_t)

# /lua/btdecode.lua may call create_luid_file_db on demand
polaris_create_ldb_domtrans(polaris_btdecode_t)

# in some cases it runs with telnet /dev/ptyN as stdin/stdout
# example when executed on other node, or "monitor log profile"
# command
telnet_use_ptys(polaris_btdecode_t)

# Allow btdecode to read/write /dev/pts/*
term_use_generic_ptys(polaris_btdecode_t)

# Allow btdecode to watch over /bootflash/tracelogs, /vol/harddisk/tarcelogs and /flash2/CRASH/tracelogs
polaris_btrace_data_watch(polaris_btdecode_t)

# Allow btdecode to watch over /usr/binos/conf
files_watch_usr_dirs(polaris_btdecode_t)

# Allow btdecode to access UFS mounted directories for other members
optional_policy('polaris_ncd_tmp_read(polaris_btdecode_t)')

# btrace_rotate calls ftw function through create_luid_file_db utility
# that walks whole file tree in order to create btrace_luids_file.cdb
# let's have separate domain for this utility
polaris_utility_domain_template(create_ldb)

files_read_all_files(polaris_create_ldb_t)
files_getattr_all_dirs(polaris_create_ldb_t)
files_read_all_symlinks(polaris_create_ldb_t)
files_list_non_security(polaris_create_ldb_t)
files_dontaudit_list_security_dirs(polaris_create_ldb_t)
files_mmap_all_files(polaris_create_ldb_t)

# allow luid database scripts to read/write /dev/pts/*
term_use_generic_ptys(polaris_create_ldb_t)

# creates files like btrace_luids_file.cdb_20170907160108.tmp, btrace_luids_file.cdb
type polaris_ldb_tmp_t;
files_tmp_file(polaris_ldb_tmp_t)
files_tmp_filetrans(polaris_create_ldb_t, polaris ldb tmp_t, file)
files_tmp_filetrans(polaris btdecode_t, polaris ldb tmp_t, file, "btrace_luids_file.cdb")
manage_files_pattern(polaris_create_ldb_t, polaris ldb tmp_t, polaris ldb tmp_t)
mmap_files_pattern(polaris_create_ldb_t, polaris_create_ldb_t, polaris_create_ldb_t)
polaris_use_btrace_fifo(polaris_create_ldb_t)

# in some cases it runs with telnet /dev/ptyN as stdin/stdout
# example when executed on other node, or "monitor log profile"
# command
telnet_use_ptys(polaris_create_ldb_t)

# Allowing permission to read/open/getattr/ on
# /tmp/sw/mount/*universalk9.*.SSA.pkg/usr/binos/sbin/in.telnetd
gen_require(
    type telnetd_exec_t;
')
allow polaris_btdecode_t telnetd_exec_t:file { getattr open read };

########################################
# CLI: show platform software trace filter-binary wired
# invokes.../bin/sh /usr/binos/conf/mcp_trace_filter.sh --binary wired
########################################
polaris_utility_domain_template(trace_filter)
polaris_bexecute_domtrans(polaris_trace_filter_t)
polaris_bexecute_domain(polaris_trace_filter_t, polaris_trace_filter_exec_t)
# mcp_trace_filter.sh runs with telnet /dev/ptyN as
# stdin/stdout if on standby
telnet_use_ptys(polaris_trace_filter_t)

# script starts rsync with mcp_chvrf.sh
polaris_chvrf_domtrans(polaris_trace_filter_t)

allow polaris_trace_filter_t self:capability { dac_override sys_resource };

# access /tmp/sw/boot/pkginfo
# awk -v what=~.BuildPath: $pkginfo_file ~ what { print $2 } /tmp/sw/boot/pkginfo
polaris_boot_tmp_read(polaris_trace_filter_t)
polaris_chasfs_read(polaris_trace_filter_t)
polaris_disk_bootflash_read_lnk(polaris_trace_filter_t)
polaris_disk_crashinfo_getattr(polaris_trace_filter_t)
polaris_bootflash_manage(polaris_trace_filter_t)
polaris_use_btman_fifo(polaris_trace_filter_t)
polaris_use_btrace_fifo(polaris_trace_filter_t)
polaris_smand_use_fifo(polaris_trace_filter_t)
polaris_cpld_read(polaris_trace_filter_t)
polaris_tdlldb_list_dirs(polaris_trace_filter_t)
polaris_disk_harddisk_read_lnk(polaris_trace_filter_t)
kernel_read_system_state(polaris_trace_filter_t)

# read /proc/rmbonbifo files such as env_var.sh
polaris_rmonbifo_tmp_read(polaris_trace_filter_t)

# df on "/" needs fs_t:filesystem getattr
fs_getattr_xattr_fs(polaris_trace_filter_t)

# Allow mcp_trace_request.sh to access UFS mounted directories for other members
optional_policy(`
polaris_ncd_tmp_read(polaris_trace_filter_t)
`)

# allow creation/access of temporary files created by bash such as
# /tmp/sh-thd-1499428203 etc
type polaris_trace_filter_tmp_t;
files_tmp_file(polaris_trace_filter_tmp_t)
files_tmp_filetrans(polaris_trace_filter_t, polaris_trace_filter_tmp_t, file)
manage_files_pattern(polaris_trace_filter_t, polaris_trace_filter_tmp_t, polaris_trace_filter_tmp_t)

# mcp_trace_filter.sh invokes: "df /tmp/rp/tdldb" and "df /dev/shm"
fs_getattr_tmpfs(polaris_trace_filter_t)

# allow accesses to polaris lua files
polaris_lua_read(polaris_trace_filter_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_trace_filter_t)

corecmd_exec_bin(polaris_trace_filter_t)

# why does btrace show command needs to write into btrace state?
polaris_btrace_data_manage_all(polaris_trace_filter_t)
polaris_btrace_persistent_data_manage(polaris_trace_filter_t)

# Allow mcp_trace_request.sh to access NFS mounted directories for other members
# such as /tmp/ufs/harddisk/10.130.1.0
fs_getattr_nfs(polaris_trace_filter_t)

*******************************************************************************
# CLI: monitor log profile <iwan | wireless | wired ..>
# invokes../bin/sh /usr/binos/conf/mcp_trace_request.sh --operation monitor
*******************************************************************************
polaris_utility_domain_template(trace_request)
polaris_bexecute_domtrans(polaris_trace_request_t)
polaris_bexecute_domain(polaris TRACE REQUEST T, polaris_TRACE REQUEST EXEC T)

# Provide sys_resource capability for sys_pipe calls
allow polaris TRACE REQUEST T self: capability sys_resource;

polaris_cpld_read(polaris TRACE REQUEST T)
polaris_disk_crashinfo_getattr(polaris TRACE REQUEST T)
polaris_disk_bootflash_read_link(polaris TRACE REQUEST T)
polaris_disk_harddisk_read_link(polaris TRACE REQUEST T)
polaris_chasfs_manage(polaris TRACE REQUEST T)

fs_getattr_xattr_fs(polaris TRACE REQUEST T)

# can execute hostname
hostname_exec(polaris TRACE REQUEST T)

# can execute dmesg
dmesg_domtrans(polaris TRACE REQUEST T)

# creates archives under /crashinfo
polaris_disk_crashinfo_manage(polaris TRACE REQUEST T)

# can tar logs to persistent all file systems (including removable file systems)
polaris_persistent_manages(polaris TRACE REQUEST T)
polaris_removable_manages(polaris TRACE REQUEST T)

# read and write all btrace fifo file as standard input/output.
polaris_use_btrace_fifo(polaris TRACE REQUEST T)

# read /proc/rmbonbifo files such as env_var.sh
polaris_rmonbifo_tmp_read(polaris TRACE REQUEST T)

# copies /tmp/silent_roll_select.log into /crashinfo so that it can be tar'd into an
# archive
polaris_pvp_read_tmp_files(polaris TRACE REQUEST T)

# read /tmp/sw/boot/base_pkg
polaris_boot_tmp_read(polaris TRACE REQUEST T)

# in some cases mcp TRACE REQUEST.sh runs with telnet /dev/ptyN as
# stdin/stdout
telnet_use_ptys(polaris TRACE REQUEST T)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris TRACE REQUEST T)

# read /proc/cmdline
kernel_read_system_state(polaris_trace_request_t)

corecmd_exec_bin(polaris_trace_request_t)

ifdef('ngwc_family',"
optional_policy('polaris_ncd_tmp_read(polaris_trace_request_t)
')
')

# mcp_trace_request.sh can read all btrace files both in temp storage
# as well as in persistent storage
polaris_btrace_data_manage_all(polaris_trace_request_t)
polaris_btrace.persistent_data_manage(polaris_trace_request_t)

# Allow mcp_trace_request.sh to create and manage temporary files under /tmp
# such as /tmp/mtr_cntrl
type polaris_trace_request_tmp_t;
files_tmp_file(polaris_trace_request_tmp_t)
files_tmp_filetrans(polaris_trace_request_t, polaris_trace_request_tmp_t, file)
manage_files_pattern(polaris_trace_request_t, polaris_trace_request_tmp_t, polaris_trace_request_tmp_t)

# Allow mcp_trace_request.sh to access NFS mounted directories for other members
# such as /tmp/ufs/crashinfo/10.1.1.1
fs_getattr_nfs(polaris_trace_request_t)

# mcp_trace_request.sh invokes dmesg, which runs in dmesg_t domain needs access
# to btrace data store
gen_require("
   type dmesg_t;
')
polaris_btrace.persistent_data_manage(dmesg_t)
# dmesg invocation in case of disk being full,
# results in writing to area of disk that
# requires the sys_resource capability.
allow dmesg_t self:capability sys_resource;

# Set /tmp/udev_ng4k.vbd.log to be under polaris_udev_tmp_files_t label
gen_require("
   type udev_t;
   type polaris_udev_tmp_files_t;
   type init_t;
')
files_tmp_filetrans(udev_t, polaris_udev_tmp_files_t, file, "udev_ng4k.vbd.log")
fs_tmpfs_filetrans(udev_t, polaris_udev_tmp_files_t, file, "udev_ng4k.vbd.log")
files_tmp_filetrans(init_t, polaris_udev_tmp_files_t, file, "udev_ng4k.vbd.log")
fs_tmpfs_filetrans(init_t, polaris_udev_tmp_files_t, file, "udev_ng4k.vbd.log")
# Add permission for mcp_trace_request to access polaris_udev_tmp_files_t files
polaris_udev_tmp_manage(polaris_trace_request_t)

# Allow ls /tmp/ufs/harddisk
optional_policy(
    polaris_ncd_tmp_read(polaris_trace_request_t)
)

# Allow mcp_trace_request to get tmpfs attributes
fs_getattr_tmpfs(polaris_trace_request_t)

# allow mcp_trace_request to execute tar
allow polaris_trace_request_t self:capability { chown fowner fsetid };


################################################################################

# Btrace semaphore created by systemd-tmpfiles needs map permission
gen_require(
    type systemd_tmpfiles_t;
    mmap_files_pattern(systemd_tmpfiles_t, polaris_btrace_tmpfs_t, polaris_btrace_tmpfs_t)
)

# Allow polaris processes to manage level config files in tracelogs persistent
directory like /bootflash/tracelogs/level_config

# type polaris_btrace_lvl_config_t;
files_type(polaris_btrace_lvl_config_t)

gen_require(
    attribute polaris_domain;
)

polaris_btrace_lvl_config_manage(polaris_domain)

optional_policy(
    polaris_cedge_tanman_tmp_manage(polaris_btdecode_t)
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbtrace.te

No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/psvp.sh -- gen_context(system_u:object_r:polaris_psvp_exec_t,s0)
/tmp/rp/psvp -d gen_context(system_u:object_r:polaris_psvp_tmp_t,s0)
/tmp/rp/psvp/inot_fifo -p gen_context(system_u:object_r:polaris_psvp_tmp_t,s0)
/tmp/rp/psvp/pvp.pid -- gen_context(system_u:object_r:polaris_psvp_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispsvp.fc
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisbexecute, 1.0);

corecmd_exec_bin(polaris_bexecute_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_bexecute_t)

dev_setattr_null_dev(polaris_bexecute_t)

polaris_btrace_data_manage(polaris_bexecute_t)
polaris_myft_data_manage(polaris_bexecute_t)
polaris_chasfs_manager(polaris_bexecute_t)
polaris_cpld_read(polaris_bexecute_t)
polaris_boot_tmp_read(polaris_bexecute_t)
polaris_rmonbifo_tmp_read(polaris_bexecute_t)
polaris_rmonbifo_read(polaris_bexecute_t)
polaris_dyncfg_tmp_read(polaris_bexecute_t)
polaris_read_debug_conf(polaris_bexecute_t)
polaris_tlddb_list_dirs(polaris_bexecute_t)
polaris_disk_bootflash_read_lnk(polaris_bexecute_t)
polaris_disk_harddisk_read_lnk(polaris_bexecute_t)

# open/read /tmp/sw/rp/max_elastic_bays
polaris_pvp_read_tmp_files(polaris_bexecute_t)

# search/getattr of /tmp/udev/etc/udev
polaris_udev_tmp_list_dirs(polaris_bexecute_t)

# manage files in /tmp/pman_ports
polaris_pman_manage_tmp_files(polaris_bexecute_t)

# brelay.sh does rm -rf of "/tmp/pman_ports/gdbport/9910"
# This checks tmpfs file system attributes
# # Denial is observed after "show platform software audit summary"
# which uses brelay to trigger corresponding audit_log.sh script
fs_getattr_tmpfs(polaris_bexecute_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_bexecute_t)

# follow /tftp/inv symlink to /tmp/chassis/local/rp/chasfs/inventory
gen_require(''
    type tftpdir_rw_t;
    ')
read_lnk_files_pattern(polaris_bexecute_t, tftpdir_rw_t, tftpdir_rw_t)

# tries to do mkdir -p /tmp/lipc, but it should exist already so
# getattr should be sufficient
polaris_lipc_getattr(polaris_bexecute_t)

# read /proc/cmdline
kernel_read_system_state(polaris_bexecute_t)

# binary tracing fifo_file as standard output
polaris_use_btrace_fifo(polaris_bexecute_t)

# write into pipe that smand created for us with popen
polaris_smand_use_fifo(polaris_bexecute_t)

allow polaris_bexecute_t self:capability { chown setgid setuid fowner net_admin };  
allow polaris_bexecute_t self:process { setpgid setcap };  

# temporary files created by bexecute like /tmp/get_status_type_pkg_list.rp-1-0-0.20170707094059.out.log
type polaris_bexecute_tmp_t;
files_tmp_file(polaris_bexecute_tmp_t)
files_tmp_filetrans(polaris_bexecute_t, polaris_bexecute_tmp_t, file)
manage_files_pattern(polaris_bexecute_t, polaris_bexecute_tmp_t, polaris_bexecute_tmp_t)

# smand calls many commands through bexec.sh
polaris_smand_domain(polaris_bexecute_t, polaris_bexecuteExec_t)

# hman invokes cpp_shm_mgr_info_show.sh which in turn invokes "mktemp -p /tmp/tmppub..."
polaris_btrace_tmppub_manage(polaris_bexecute_t)

ifdef(`nyquist_platform',`
    term_use_unallocated_ttys(polaris_bexecute_t)
    term_setattr_unallocated_ttys(polaris_bexecute_t)
')

ifdef(`radium_platform',`
polaris_load_usbnet_domtrans(polaris_bexecute_t)

    # allow /usr/binos/conf/bexecute.sh for tcp_socket access
    # due to "/bin/sh /usr/binos/conf/mcp_chvrf.sh eobc
    #   /usr/binos/conf/bexecute.sh -c /usr/binos/conf/module_direct.py
    #   0 bp0 PROMETHIUM-L"
gen_require(`
    type polaris_cm_rp_t;
')
    allow polaris_chvrf_t polaris_cm_rp_t:tcp_socket ioctl;
')

ifdef(`sumatra_platform',`
polaris_load_usbnet_domtrans(polaris_bexecute_t)

    # allow /usr/binos/conf/bexecute.sh for tcp_socket access
    # due to "/bin/sh /usr/binos/conf/mcp_chvrf.sh eobc
    #   /usr/binos/conf/bexecute.sh -c /bin/mcp_pkg_wrap rp_daemons
    #   /usr/binos/conf/execute_co"
gen_require(`
    type polaris_dmi_ncsshd_fwd_t;
')
    allow polaris_chvrf_t polaris_dmi_ncsshd_fwd_t:tcp_socket ioctl;
')

ifdef(`supernova_platform',`
polaris_load_usbnet_domtrans(polaris_bexecute_t)
')
polaris_issu_tmp_files_manage(polaris_bexecute_t)

# Unlike other platforms, quake platform has runin_exec_proc.sh script,
# which is started by xinetd in inetd_t domain,
# and needs to switch to bexecute domain.
# In turn, runin_exec_proc.sh then starts in.telnetd process which needs
# to run in telnetd_t domain, for the existing policies to do the rest.
ifdef(`quake_platform',`
  gen_require(
    type inetd_t;
    type telnetd_t;
    type telnetd_exec_t;
  )
polaris_bexecute_domtrans(inetd_t)
polaris_bexecute_domain(telnetd_t, telnetd_exec_t)
')

#############################################################################
# chvrf
#############################################################################
corecmd_exec_bin(polaris_chvrf_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_chvrf_t)

# read polaris vrf net namespace file(s) /var/run/netns/0
fs_read_nsfs_files(polaris_chvrf_t)

# write into pipe that various binos processes created for us with popen
polaris_smand_use_fifo(polaris_chvrf_t)
polaris_hman_use_fifo(polaris_chvrf_t)
polaris_dmiauthd_use_fifo(polaris_chvrf_t)
optional_policy(`
polaris_cmrp_use_fifo(polaris_chvrf_t)
')
optional_policy(`
polaris_dmi_ncsshd_fwd_use_fifo(polaris_chvrf_t)
')

# mcp_chvrf.sh may run into files created by bexecute
manage_files_pattern(polaris_chvrf_t, polaris_bexecute_tmp_t, polaris_bexecute_tmp_t)

# init may transition to polaris_chvrf_t - certain systemd units use
# mcp_chvrf.sh to start services
gen_require(
  type init_t;
')
polaris_chvrf_domtrans(init_t)

# mcp_chvrf.sh used to start xinetd services
gen_require(
    type inetd_t;
    type inetd_exec_t;
')
domtrans_pattern(polaris_chvrf_t, inetd_exec_t, inetd_t)

# in some cases mcp_chvrf needs to write into someone fifo stdout
# file, i.e when called from ncd.sh script
polaris_use_btrace_fifo(polaris_chvrf_t)

sysnet_domtrans_ifconfig(polaris_chvrf_t)

# during some execve calls chvrf needs list /tmp/etc
polaris_etc_list(polaris_chvrf_t)

ifdef(`ngwc_family',`
    # /tmp/rsync_log_dir/rsync_log_XXX is stdout when mcp_chvrf.sh with rsync is called
    # also /tmp/etc/installer/inot_fifo file descriptor is leaked from the script
    polaris_manage_rsync_tmplog_dir(polaris_chvrf_t)
polaris_autoupgrade_tmp_managen(polaris_chvrf_t)
polaris_autoupgrade_tmp_managen(polaris_bexecute_t)
')

ifdef(`mcp_family',`
    # /tmp/rsync_log_dir/rsync_log_XXX is stdout when mcp_chvrf.sh with rsync is called
    # also /tmp/etc/installer/inot_fifo file descriptor is leaked from the script
    polaris_manage_rsync_tmplog_dir(polaris_chvrf_t)
polaris_autoupgrade_tmp_managen(polaris_chvrf_t)
polaris_autoupgrade_tmp_managen(polaris_bexecute_t)
')

ifdef(`wlc_family',`
    # /tmp/rsync_log_dir/rsync_log_XXX is stdout when mcp_chvrf.sh with rsync is called
    # also /tmp/etc/installer/inot_fifo file descriptor is leaked from the script
    polaris_manage_rsync_tmplog_dir(polaris_chvrf_t)
polaris_autoupgrade_tmp_managen(polaris_chvrf_t)
polaris_autoupgrade_tmp_managen(polaris_bexecute_t)
')

# For "request platform software system shell" CLI, we have:
# /bin/sh /usr/binos/conf/mcp_chvrf.sh eobc /usr/binos/conf/bexecute.sh
# -c /usr/binos/conf/mcp_record_shell.sh
# mcp_chvrf.sh needs read/write access to /dev/pts/1:
# allow polaris_chvrf_t telnetd_devpts_t:chr_file { read write };
telnet_use_ptys(polaris_chvrf_t)
ifdef(\'nyquist_platform\','
term_use_unallocated_ttys(polaris_chvrf_t)
')

# some times run with unix_stream_socket as stdin
init_ioctl_stream_sockets(polaris_chvrf_t)

#########################################################################
# bexecute and mcp_chvrf.sh called from install_show.sh
#########################################################################
polaris_install_show_tmp_write(polaris_bexecute_t)
polaris_install_show_tmp_write(polaris_chvrf_t)

#########################################################################
# install_engine.sh uses brelay to re-launch install_engine in all FRUs.
# So, op_rp_switch_to_remote_loc_in_parallel() outputs to install tmp log file;
# check invocation-point for comms_run_on_remote_fru.
#########################################################################
polaris_install_tmp_log_write(polaris_bexecute_t)
polaris_install_tmp_log_write(polaris_chvrf_t)

#########################################################################
# CLI: show platform hardware cpp active infrastructure shared-memory all
# this results in hman invoking following chain of shell scrips.
# /bin/sh /usr/binos/conf/bexec.sh -c /usr/binos/conf/cpp_shm_mgr_info_show.sh
# /bin/bash /usr/binos/conf/bexecute.sh -c /usr/binos/conf/cpp_shm_mgr_info_show.sh
# /bin/sh /usr/binos/conf/cpp_shm_mgr_info_show.sh
# /bin/bash /usr/binos/conf/bash.sh -S -c "show platform hardware qfp active \n# infrastructure shared-memory process cpp-control-process"
# All these are executed in polaris_bexecute_t domain and write access to following lipc
# is needed: /tmp/rp/lipc/shell_mgr_bshell_serv_socket
#########################################################################
polaris_sman_bshell_serv_lipc_write(polaris_bexecute_t)
polaris_tdlresolve_read(polaris_bexecute_t)
#########################################################################
# This block is policies for "sh pla so process memory r0 name iosd maps" CLI
polaris_utility_domain_template(process_maps)
polaris_bexecute_domain(polaris_process_maps_t, polaris_process_maps_exec_t)

# needs to read maps files.
domain_read_all_domains_state(polaris_process_maps_t)

# "ps" needs read access to /sys/devices/system/cpu/online
# "ps" needs read access to /proc/uptime
dev_read_sysfs(polaris_process_maps_t)
kernl_read_system_state(polaris_process_maps_t)

# need write/ioctl/getattr access for pipes like "pipe:[118396]"
polaris_hman_use_fifo(polaris_process_maps_t)

corecmd_exec_bin(polaris_process_maps_t)

# This block is policies for "request platform software system shell" CLI.
# Eventually, mcp_record_shell.sh is invoked. That needs its own domain.
polaris_utility_domain_template(platform_shell)

dpolaris_bexecute_domain(polaris_platform_shell_t, polaris_platform_shell_exec_t)
corecmd_exec_bin(polaris_platform_shell_t)
auth_use_nsswitch(polaris_platform_shell_t)

dpolaris_btrace_persistent_data_manage(polaris_platform_shell_t)
dpolaris_cpld_read(polaris_platform_shell_t)

# cyan libraries access /tmp/sw/boot/rmonbifo/boardsubtype
dpolaris_rmonbifo_tmp_read(polaris_platform_shell_t)

# pglobals.sh accesses /tmp/ufs//crashinfo on cat9k platforms
optional_policy('

dpolaris_ncd_tmp_read(polaris_platform_shell_t)
')

# mcp_record_shell.sh needs read access to chasfs
dpolaris_chasfs_read(polaris_platform_shell_t)

# mcp_record_shell.sh needs read access to /dev/pts/0 (telnetd_devpts_t)
dtelnet_use_ptys(polaris_platform_shell_t)

# rsync /tmp/system_shell_access_logs/$system_shell_access_log_file
# rsync://rp0-0/chasfs/etc/system_shell_access_logs/.
gen_require(''

type rsync_t;
')
rsync_entry_domtrans(polaris_platform_shell_t, rsync_t)
allow rsync_t polaris_platform_shell_t:process sigchld;
dtelnet_use_ptys(rsync_t)

logging_send_syslog_msg(polaris_platform_shell_t)
ninit_list_pid_dirs(polaris_platform_shell_t)

#when reload command is issued, needs "kill" capability
allow polaris_platform_shell_t self:capability kill;
# brelay started from telnetd as result it inherits stdin/stdout of pty opened
# by telnetd
telnet_use_ptys(polaris_bexecute_t)
gen_require(
  type telnetd_devpts_t;
')
allow polaris_bexecute_t telnetd_devpts_t:chr_file setattr_chr_file_perms;
allow polaris_bexecute_t self:capability fsetid;

# mcp_record_shell.sh invokes:
# /usr/bin/script -q /harddisk/tracelogs/system_shell_R0*
# - needs access to /root/.bash_history
# - performs chmod on /dev/pts/2 (needs fsetid on self)
# - ioctl/open/read/write on /dev/ptmx
# - needs read/search access to /harddisk/tracelogs
type polaris_bash_tmp_t;
files_type(polaris_bash_tmp_t)
filetrans_pattern(domain, user_home_dir_t, polaris_bash_tmp_t, file, ".bash_history")
polaris_bash_tmp_manage(polaris_platform_shell_t)
allow polaris_platform_shell_t self:capability fsetid;
term_use_generic_ptys(polaris_platform_shell_t)
term_setattr_generic_ptys(polaris_platform_shell_t)
term_getattr_pty_fs(polaris_platform_shell_t)
term_use_ptmx(polaris_platform_shell_t)
polaris_disk_bootflash_read_lnk(polaris_platform_shell_t)
polaris_disk_harddisk_read_lnk(polaris_platform_shell_t)

# mcp_record_shell.sh invokes:
#  mkdir /tmp/system_shell_access_logs
#  create /tmp/system_shell_access_logs/SHELL_ACCESSED_*
type polaris_platform_shell_tmp_t;
files_tmp_file(polaris_platform_shell_tmp_t)
files_tmp_filetrans(polaris_platform_shell_t, polaris_platform_shell_tmp_t, dir, "system_shell_access_logs")
files_tmp_filetrans(polaris_platform_shell_t, polaris_platform_shell_tmp_t, dir, "system_shell_access_logs")
manage_dirs_pattern(polaris_platform_shell_t, polaris_platform_shell_tmp_t, polaris_platform_shell_tmp_t)
manage_files_pattern(polaris_platform_shell_t, polaris_platform_shell_tmp_t, polaris_platform_shell_tmp_t)

# read /proc/cmdline
kernel_read_system_state(polaris_platform_shell_t)

# read /tmp/sw/boot/base_pkg
polaris_boot_tmp_read(polaris_platform_shell_t)

polaris_disk_crashinfo_getattr(polaris_platform_shell_t)

polaris_utility_domain_template(shell)
term_use_generic_ptys(polaris_shell_t)

dontrans_pattern(polaris_platform_shell_t, polaris_shell_exec_t, polaris_shell_t)

# reload command needs the following policies to send signal
polaris_send_signal_to_bexecute(polaris_platform_shell_t)
polaris_send_signal_to_shell(polaris_platform_shell_t)

## <desc>
## <p>
## Polaris "request platform system shell” drops into unconfined shell
## </p>
## </desc>
gen_tunable(polaris_dev_shell, true)

polaris_domain_storage_unconfined_type(polaris_shell_t)

# PLEASE LOOK AT ME do we have to many ports open
# btelnet runs under bexecute in case of guest shell console access
# command like app-hosting connect appid guestshell console
allow polaris_bexecute_t self:tcp_socket { connect create setopt };
corenet_tcp_connect_unreserved_ports(polaris_bexecute_t)
sysnet_read_config(polaris_bexecute_t)

# brelay.sh does ls /tmp/ufs//crashinfo on cat9k
allow polaris_bexecute_t self:capability dac_override;
polaris_disk_crashinfo_getattr(polaris_bexecute_t)
optional_policy('polaris_ncd_tmp_read(polaris_bexecute_t)
')

polaris_utility_domain_template(bconsole)

polaris_boot_tmp_read(polaris_bconsole_t)
polaris_btrace_data_manage(polaris_bconsole_t)
polaris_chasfs_read(polaris_bconsole_t)
polaris_cpld_read(polaris_bconsole_t)
polaris_show_provision_temp_read(polaris_bconsole_t)

corecmd_exec_bin(polaris_bconsole_t)
polaris_bexecute_domtrans(polaris_bconsole_t)

allow polaris_bconsole_t self:process setrlimit;

# handling /var/run/agetty-iosd.pid
type polaris_bconsole_var_run_t;
files_pid_file(polaris_bconsole_var_run_t)
manage_files_pattern(polaris_bconsole_t, polaris_bconsole_var_run_t, polaris_bconsole_var_run_t)
files_pid_filetrans(polaris_bconsole_t, polaris_bconsole_var_run_t, file, "agetty-iosd.pid")

# access /dev/ttyS0
term_use_unallocated_ttys(polaris_bconsole_t)
auth_use_nsswitch(polaris_bconsole_t)

#########################################################
# This block is policies for
# "request platform software console attach switch standby RO" CLI.
# It invokes usr/binos/conf/mcp_console_attach.sh, eventually invoking
# ioucon binary, to telnet to standby.

polaris_utility_domain_template(mcp_console_attach)
polaris_bexecute_domain(polaris_mcp_console_attach_t, polaris_mcp_console_attach_exec_t)
corecmd_exec_bin(polaris_mcp_console_attach_t)
polaris_bexecute_domtrans(polaris_mcp_console_attach_t)
allow polaris_mcp_console_attach_t self:process setpgid;
polaris_chasfs_read(polaris_mcp_console_attach_t)
telnet_use_ptys(polaris_mcp_console_attach_t)

# working with ioucon binary, invoked by usr/binos/conf/mcp_console_attach.sh
polaris_utility_domain_template(ioucon)
polaris_bexecute_domain(polaris_ioucon_t, polaris_ioucon_exec_t)

allow polaris_ioucon_t self:unix_dgram_socket create_socket_perms;
polaris_iosd_dgram_send(polaris_ioucon_t)
polaris_iosd_tmp_file_use(polaris_ioucon_t)
telnet_use_ptys(polaris_ioucon_t)

# "test platform hardware eobc ping" invokes eobc_ping.sh
# send sigchld when it is done
gen_require(
    type ping_t;
)
allow ping_t polaris_bexecute_t:process sigchld;
polaris_confd_domtrans(polaris_bexecute_t)

# app-hosting connect appid <> console/session
# Beluga/Meraki container
ifdef(`ms_platform',`
polaris_iox_container_domtrans(polaris_bexecute_t)
')

# Bottlenose/Meraki container
ifdef(`bottlenose_platform',`
polaris_iox_container_domtrans(polaris_bexecute_t)
')

# IOx downloads the application package using network protocol (e.g http)
gen_require(''
    type fifo_var_run_t;
')
allow polaris_bexecute_t fifo_var_run_t:fifo_file read;

# on xve platforms with MBRv2/MBRv4/GPTv1/GPTv3 partition layouts
# /config is file system and export_mcp_environment tries to create it anyway
polaris_getattr_disk_config(polaris_bexecute_t)

################################################################################
# This block is policies for
# "hw-module session <x/y>" CLI.
# It invokes /usr/binos/conf/ngio_module_session.sh, eventually invoking
# open64.

polaris_utility_domain_template(ngio_module_session)
polaris_bexecute_domain(ngio_module_session_t, ngio_module_session_exec_t)
corecmd_exec_bin(ngio_module_session_t)
polaris_bexecute_domtrans(ngio_module_session_t)
term_use_unallocated_ttys(ngio_module_session_t)
dev_read_sysfs(ngio_module_session_t)
allow ngio_module_session_t self:process setsched;
auth_map_passwd(ngio_module_session_t)
polaris_chasfs_read(ngio_module_session_t)
polaris_cpld_read(ngio_module_session_t)
telnet_use_ptys(ngio_module_session_t)

# work with /tmp files

type ngio_module_session_tmp_t;
files_tmp_file(ngio_module_session_tmp_t)
manage_dirs_pattern(ngio_module_session_t, tmp_t, ngio_module_session_tmp_t)
manage_files_pattern(ngio_module_session_t, ngio_module_session_tmp_t,
    ngio_module_session_tmp_t)
manage_fifo_files_pattern(ngio_module_session_t, ngio_module_session_tmp_t,
    ngio_module_session_tmp_t)
files_tmp_filetrans(ngio_module_session_t, ngio_module_session_tmp_t, { file dir })

# CLI: show platform software tech-support
# requires bshell execution
# /bin/bash /usr/binos/conf/bshell.sh -S -P ---- __CMD__ ---- -f
/usr/binos/conf/mcp_tech_support_command_file.txt
gen_require(
    type polaris_bshell_t;
    type polaris_bshell_exec_t;
')
domtrans_pattern(polaris_bexecute_t, polaris_bshell_exec_t, polaris_bshell_t)
# scripts stdin is set by hman and needs write/append access to pipes like pipe:[80159]
polaris_hman_use_fifo(polaris_bshell_t)
# in case of ISR4k show tech input for bshell dynamically created
polaris_tech_support_tmp_read(polaris_bshell_t)

# CLI: show software authenticity running
# this results in hman invoking below command:
# /bin/sh /usr/binos/conf/bexec.sh -c "/usr/bin/code_sign_verify show3 abcd   

polaris_code_verify_domtrans(polaris_bexecute_t)

# stdin is inherited when bexecute calls fts_client
polaris_fts_client_tmp_manage(polaris_bexecute_t)

# disk space full issue
allow polaris_platform_shell_t self:capability sys_resource;

# CLI: request platform software sdwan admin-tech

polaris_confd_unix_stream_stdio_use(polaris_bexecute_t)

# executes: /bin/sh vconfd_script_show_installerfs.sh

polaris_confd_unix_stream_stdio_use(polaris_bexecute_t)

# executes: bash bshell.sh -S -P ---- __CMD__ ---- -f /tmp/sdwan_tech_support_command_file_out.txt

polaris_confd_unix_stream_stdio_use(polaris_bshell_t)

# write to /tmp/out_${date "+%Y%m%d%H%M%S%N"} for base version verification on smu install
polaris_install_tmp_write(polaris_bexecute_t)

# Nutella-XE install image
# /bin/bash /usr/binos/conf/brelay.sh -E -f rp 0 16023 -c /usr/binos/conf/install_engine.sh --operation install_commit
--isremote

polaris_confd_tmp_use_fifo(polaris_bexecute_t)

#awk -v what=^.BuildPath: $pkginfo_file ~ what { print $2 } /tmp/sw/rp/0/0/rp_security/mount/.pkginfo

polaris_read_packages_conf(polaris_bexecute_t)

dev_read_rand(polaris_bexecute_t)

# /usr/bin/python3 /usr/binos/conf/issu_client_comp.py compare -b /usr/binos/conf/base_clients.txt -n
/bootflash/.installer/current_clients.txt
polaris_disk_install_read(polaris_bexecute_t)

# allow "/usr/binos/conf/module_direct.py” (bexecute_t) to execute
# "/usr/bin/ethtool” (ifconfig_exec_t) when invoking CLI
# "show platform1 hardware subslot <slot/card> backplane statistics”
sysnet_domtrans_ifconfig(polaris_bexecute_t)
# Write into pipe created by stack_mgr
# Parent Child Relation - stack_mgr -> mcp_trace_request -> brelay (to relay output to active)
optional_policy(
    polaris_use_stack_mgr_fifo(polaris_bexecute_t)
)

polaris_etc_list(polaris_bexecute_t)
#manage /tmp/existing_rommon_info file
polaris_manage_rommon_info(polaris_capsule_upgrade_t)

#Policies for "upgrade rom-monitor capsule primary switch 1 R0" CLI
#/usr/binos/conf/bexecute.sh -c /usr/binos/conf/cat9k-primary-capsule-upgrade.sh
#cat9k-primary-capsule-upgrade.sh have to run in its own domain
polaris_utility_domain_template(capsule_upgrade)
polaris_bootflash_manage(polaris_capsule_upgrade_t)

type polaris_capsule_upgrade_log_t;
polaris_pfile_type(polaris_capsule_upgrade_log_t)
polaris_capsule_upgrade_log_use(polaris_capsule_upgrade_t)
polaris_bexecute_domain(polaris_capsule_upgrade_t, polaris_capsule_upgrade_exec_t)
polaris_bexecute_domtrans(polaris_capsule_upgrade_t)
corecmd_exec_bin(polaris_capsule_upgrade_t)
auth_use_nsswitch(polaris_capsule_upgrade_t)
polaris_chasfs_manage(polaris_capsuleUpgrade_t)
polaris_cpld_read(polaris_capsule_upgrade_t)
telnet_use_ptys(polaris_capsule_upgrade_t)
polaris_rommon_device_read(polaris_capsule_upgrade_t)

# For "/bin/sh /usr/binos/conf/mcp_chvrf.sh eobc
# /usr/binos/conf/bexecute.sh -c /usr/binos/conf/install_engine.sh
# --operation install_c”,
# uses unix stream socket created by confd as standard I/O.
polaris_confdom_unix_stream_stdio_use(polaris_chvrf_t)

******************************************************************************
# mcp_dmesg_service

polaris_utility_domain_template(mcp_dmesg)

polaris_bexecute_domain(polaris_mcp_dmesg_t, polaris_mcp_dmesg_exec_t)
polaris_bexecute_domtrans(polaris_mcp_dmesg_t)
dmesg_domtrans(polaris_mcp_dmesg_t)
corecmd_exec_bin(polaris_mcp_dmesg_t)
polaris_smand_use_fifo(polaris_mcp_dmesg_t)
auth_use_nsswitch(polaris_mcp_dmesg_t)
telnet_use_ptys(polaris_mcp_dmesg_t)

# allow creation/access of temporary files like /tmp/sh-thd-1608024622
type polaris_mcp_dmesg_tmp_t;
files_type(polaris_mcp_dmesg_tmp_t)
files_tmp_file(polaris_mcp_dmesg_tmp_t)
files_tmp_filetrans(polaris_mcp_dmesg_t, polaris_mcp_dmesg_tmp_t, file)
manage_files_pattern(polaris_mcp_dmesg_t, polaris_mcp_dmesg_tmp_t, polaris_mcp_dmesg_tmp_t)
fs_getattr_tmpfs(polaris_mcp_dmesg_t)

# allowing reload_fru.sh for doing systemctl list-jobs
systemd_config_generic_services(polaris_bexecute_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbexecute.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/dev/quack -c gen_context(system_u:object_r:polaris_quack_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisquack.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polarisdbm, 1.0);
gen_require(
    type polaris_dbm_t;
)

# mqipc manual, one that missing in platform tdl file

ifdef(`nyquist_platform,'
    gen_require(
        type polaris_bt_logger_dbm_mqipc_t;
    )
    # dbm may start first and create this mqipc channel
    polaris_mqipc_create_name(polaris_dbm_t, polaris_bt_logger_dbm_mqipc_t, bt_logger_dbm)
)

polaris_btrace_data_manage(polaris_dbm_t)
polaris_crft_data_manage(polaris_dbm_t)
polaris_chasfs_manage(polaris_dbm_t)
polaris_tdlresolve_read(polaris_dbm_t)
polaris_tdlldb_list_dirs(polaris_dbm_t)
polaris_cpld_read(polaris_dbm_t)
polaris_flashlib_read(polaris_dbm_t)

polaris_ripc_sman_ui_serv_connect(polaris_dbm_t)
polaris_db_tdlldb_dir_use(polaris_dbm_t)
polaris_libciutil_build_config_directory(polaris_dbm_t)
polaris_cfg_data_manage(polaris_dbm_t)

allow polaris_dbm_t self:capability { sys_resource };
allow polaris_dbm_t self:process setrlimit;

# dbm listen on 9090 port; in case of ultra only in tcp6
corenet_tcp_bind_websm_port(polaris_dbm_t)
polaris_dyncfg_tmp_read(polaris_dbm_t)

allow polaris_dbm_t self:capability dac_override;

# port 9090, is it exclusively wnc_mgrp port?
corenet_tcp_bind_polaris_wnc_mgrp_port(polaris_dbm_t)
allow polaris_dbm_t self:tcp_socket [shutdown];

# working dbm persistent files in /bootflash/dbpersist
type polaris_disk_dbm_t;
polaris_disk_type(polaris_disk_dbm_t)

polaris_tdldbpersist_setup(polaris_dbm_t)

# dbm on active syncs with /bootflash/dbpersist on standby
# related call dbm_persist_binary_cfg_sync_to_standby()
gen_require(''
    type rsync_t;
  ')
rsync_entry_domtrans(polaris_dbm_t, rsync_t)

polaris_tmp_tdldb_persist_setup(polaris_dbm_t)

logging_send_syslog_msg(polaris_dbm_t)

corecmd_exec_bin(polaris_dbm_t)

corecmd_exec_shell(polaris_dbm_t)

# dbm needs access to "/flash1/user/installer/install_issu_state"
polaris_disk_install_read(polaris_dbm_t)

# runs over /usr/bin/rsync
coreneth_tcp_connect_rsync_port(polaris_dbm_t)

# tar invocation in dbm code necessitates this permission
auth_map_passwd(polaris_dbm_t)

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdbm.te
No license file was found, but licenses were detected in source scan.

#
# Sep 2020, Sridhar C
#
# Copyright (c) 2020-2021 by Cisco Systems, Inc.
# All rights reserved
#
/tmp/tlscd(/.*)? gen_context(system_u:object_r:polaris_tlscd_uds_t,s0)

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristlscd.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
	/tmp/fp/lipc -d gen_context(system_u:object_r:polaris_lipc_t,s0)
	/tmp/rp/lipc -d gen_context(system_u:object_r:polaris_lipc_t,s0)
	/tmp/cc/lipc -d gen_context(system_u:object_r:polaris_lipc_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislipc.fc
No license file was found, but licenses were detected in source scan.

#
# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisdmincsshdfwd, 1.0);

gen_require(
    type polaris_dmi_ncsshd_fwd_t;
)

polaris_btrace_data_manage(polaris_dmi_ncsshd_fwd_t)
polaris_chasfs_manage(polaris_dmi_ncsshd_fwd_t)
polaris_tdldresolve_read(polaris_dmi_ncsshd_fwd_t)
polaris_tdldb_list_dirs(polaris_dmi_ncsshd_fwd_t)
polaris_cpld_read(polaris_dmi_ncsshd_fwd_t)
polaris_flashlib_read(polaris_dmi_ncsshd_fwd_t)
polaris_rrip_cman_ui_serv_connect(polaris_dmi_ncsshd_fwd_t)

allow polaris_dmi_ncsshd_fwd_t self:unix_stream_socket create_stream_socket_perms;

type polaris_dmi_ncsshd_log_t;
files_tmp_file(polaris_dmi_ncsshd_log_t)
manage_files_pattern(polaris_dmi_ncsshd_fwd_t, polaris_dmi_ncsshd_log_t, polaris_dmi_ncsshd_log_t)
manage_sock_files_pattern(polaris_dmi_ncsshd_fwd_t, polaris_dmi_ncsshd_log_t, polaris_dmi_ncsshd_log_t)
files_tmp_filetrans(polaris_dmi_ncsshd_fwd_t, polaris_dmi_ncsshd_log_t, { file sock_file })

logging_send_syslog_msg(polaris_dmi_ncsshd_fwd_t)

polaris_cpld_read(polaris_dmi_ncsshd_fwd_t)

# allow to execute execute_confd CLI.sh under confd domain
polaris_confd_domtrans(polaris_dmi_ncsshd_fwd_t)
# starts bexec.sh
polaris_bexecute_domtrans(polaris_dmi_ncsshd_fwd_t)
polaris_send_signal_to_bexecute(polaris_dmi_ncsshd_fwd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmincsshd_fwd.te
No license file was found, but licenses were detected in source scan.

# # April 2017, Victor Kamensky
# # Copyright (c) 2017-2019 by Cisco Systems, Inc.
# # All rights reserved
#

/usr/bin/os/conf/cyan_init.sh -- gen_context(system_u:object_r:polaris_dyntfg_exec_t:s0)
/usr/bin/os/conf/dyncfg_setup.sh -- gen_context(system_u:object_r:polaris_dyntfg_exec_t:s0)

# temp files created by cyan_init.sh
/tmp/cyan/cyan.log gen_context(system_u:object_r:polaris_dyntfg_log_t:s0)
/tmp/cyan/cyan_runtime.log gen_context(system_u:object_r:polaris_dyntfg_log_t:s0)

/tmp/cyan/(.*)? gen_context(system_u:object_r:polaris_dyntfg_tmp_t:s0)
/tmp/cyan/\lock gen_context(system_u:object_r:polaris_dyntfg_tmp_t:s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscyan.fc
No license file was found, but licenses were detected in source scan.

# # July 2017, Victor Kamensky
# # Copyright (c) 2017-2021 by Cisco Systems, Inc.
# # All rights reserved
#

### <summary>Polaris bexecute Policy Rules.</summary>

### <summary>
### Execute bexecute in the polaris_bexecute domain.
### </summary>
### <param name="domain">
### Domain allowed to transition.
### </param>
interface('polaris_bexecute_domtrans',
gen_require(
type polaris_bexecute_t, polaris_bexecute_exec_t;
')
)

corecmd_search_bin($1)
domtrans_pattern($1, polaris_bexecute_exec_t, polaris_bexecute_t)
')

# <summary>
# Allow domain to be started by bexecute with
# transition into specific service domain.
# </summary>
# <param name="domain">
# Type to be used to run utility.
# </param>
# <param name="entry_point">
# Type of the program to be used as an entry point to this domain.
# </param>
interface('polaris_bexecute_domain',
gen_require(
type polaris_bexecute_t;
')
domtrans_pattern(polaris_bexecute_t, $2, $1)
')

# <summary>
# Execute mcp_chvrf.sh in the polaris_chvrf domain.
# </summary>
# <param name="domain">
# Domain allowed to transition.
# </param>
#
interface('polaris_chvrf_domtrans',
gen_require(
type polaris_chvrf_t, polaris_chvrf_exec_t;
')
corecmd_search_bin($1)
domtrans_pattern($1, polaris_chvrf_exec_t, polaris_chvrf_t)
')

*******************************************************************************
## <summary>
##   Execute mcp_chvrf.sh in the caller domain.
## </summary>
## <param name="domain">
##   <summary>
##   Domain allowed access.
## </summary>
## </param>
#
interface('polaris_exec_chvrf',
    gen_require('type polaris_chvrf_exec_t;
    ')

    corecmd_search_bin($1)
    can_exec($1, polaris_chvrf_exec_t)
)

*******************************************************************************
*******************************************************************************
## <summary>
##   Execute ngio_module_session.sh in the polaris_ngio_module_session domain
## </summary>
## <param name="domain">
##   <summary>
##   Domain allowed to transition.
## </summary>
## </param>
#
interface('polaris_ngio_module_session_domtrans',
    gen_require('type polaris_ngio_module_session_t, polaris_ngio_module_session_exec_t;
    ')

corecmd_search_bin($1)
domtrans_pattern($1, polaris_ngio_module_session_exec_t, polaris_ngio_module_session_t)
')

*******************************************************************************
*******************************************************************************
## <summary>
##   Allow the specified domain to send signals to any
##   polaris process.
## </summary>
## <summary>
## <param name="domain">
##     <summary>
##      Domain allowed access.
##     </summary>
## </param>
#
interface(`polaris_send_signal_to_bexecute',`
    gen_require(
        type polaris_bexecute_t;
    )
    allow $1 polaris_bexecute_t:process signal_perms;
')

######################################
## <summary>
##      Allow manage of polaris_bash_tmp_t.
## </summary>
## <param name="domain">
##     <summary>
##      Domain allowed access.
##     </summary>
## </param>
#
# interface(`polaris_bash_tmp_manage',`
    gen_require(
        type user_home_dir_t;
        type polaris_bash_tmp_t;
    )
    manage_dirs_pattern($1, user_home_dir_t, polaris_bash_tmp_t)
    manage_files_pattern($1, polaris_bash_tmp_t, polaris_bash_tmp_t)
')

########################################
## <summary>
##	Execute bexecute in the polaris_bexecute domain.
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed to transition.
## </summary>
## </param>
#
interface(`polaris_bconsole_domtrans',`
    gen_require(
        type polaris_bconsole_t, polaris_bconsole_exec_t;
corecmd_search_bin($1)
domtrans_pattern($1, polaris_bconsole_exec_t, polaris_bconsole_t)
')

##########################################################################
##  <summary>
##     Send messages to ioucon unix datagram sockets.
##  </summary>
##  <param name="domain">
##     <summary>
##     Domain allowed access.
##     </summary>
##  </param>
#
# interface('polaris_ioucon_dgram_send',
#    gen_require(
#        type polaris_ioucon_t;
#    ')
#        allow $1 polaris_ioucon_t:unix_dgram_socket sendto;
#
##########################################################################
##  <summary>
##     Execute cat9k-primary-capsule-upgrade.sh , cat9k-capsule-upgrade.sh in its own domain.
##  </summary>
##  <param name="domain">
##     <summary>
##     Domain allowed to transition.
##     </summary>
##  </param>
#
# interface('polaris_capsule_upgrade_domtrans',
#    gen_require(
#        type polaris_capsule_upgrade_t, polaris_capsule_upgrade_exec_t;
#    ')
#        corecmd_search_bin($1)
#        domtrans_pattern($1, polaris_capsule_upgrade_exec_t, polaris_capsule_upgrade_t)
#
##########################################################################
##  <summary>
##     Work(open,create,append,getattr) with /capsule-upgrade.log file
##  </summary>
##  <param name="domain">
##
## <summary>
Domain allowed access.
</summary>
## </param>
#
interface('polaris_capsule_upgrade_log_use',
    gen_require(
        type polaris_disk_bootflash_t;
        type polaris_capsule_upgrade_log_t;
    ')
    allow $1 polaris_capsule_upgrade_log_t:filesystem getattr;

    filetrans_pattern($1, polaris_disk_bootflash_t, polaris_capsule_upgrade_log_t, file, "capsule-upgrade.log")
    manage_files_pattern($1, polaris_capsule_upgrade_log_t, polaris_capsule_upgrade_log_t)
    create_files_pattern($1, polaris_capsule_upgrade_log_t, polaris_capsule_upgrade_log_t)
    getattr_files_pattern($1, polaris_capsule_upgrade_log_t, polaris_capsule_upgrade_log_t)
    append_files_pattern($1, polaris_capsule_upgrade_log_t, polaris_capsule_upgrade_log_t)
    allow $1 polaris_capsule_upgrade_log_t:file map;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbexecute.if
No license file was found, but licenses were detected in source scan.
#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polarisobfl, 1.0);

#################################################################################################
# Obfl policy
#################################################################################################

type polaris_obfl_data_t;
files_type(polaris_obfl_data_t)

gen_require(
        type init_t;
        type default_t;
        type tmp_t;
        attribute domain;
    ')

filetrans_pattern(domain, default_t, polaris_obfl_data_t, lnk_file, "obfl")
# edison uses obfl0 name
filetrans_pattern(domain, default_t, polaris_obfl_data_t, lnk_file, "obfl0")
# /tmp/obfl
files_tmp_filetrans(domain, polaris_obfl_data_t, dir, "obfl")

# allow obfl data file reside on persistent storage
polaris_pfile_type(polaris_obfl_data_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisobfl.te
No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky
# # Copyright (c) 2017-2019 by Cisco Systems, Inc.
# # All rights reserved
#

policy_module(polarisbtlogger, 1.0);

gen_require(
    type polaris_bt_logger_t;
')
polaris_btrace_data_manage(polaris_bt_logger_t)
polaris_crft_data Manage(polaris_bt_logger_t)
polaris_chasfs Manage(polaris_bt_logger_t)
polaris_tdlresolve_read(polaris_bt_logger_t)
polaris_tdlldb_list_dir(polaris_bt_logger_t)
polaris_cpld_read(polaris_bt_logger_t)
polaris_flashlib_read(polaris_bt_logger_t)
polaris_rpc_sman_ui_serv_connect(polaris_bt_logger_t)
polaris_db_tdlldb_dir_use(polaris_bt_logger_t)

# mqipc manual, one that missing in platform tdl file

# mq.-bt_logger_dbm
type polaris_bt_logger_dbm_mqipc_t;
polaris_mqipc_type(polaris_bt_logger_dbm_mqipc_t)

# mq.-bt_logger_fman-rp
type polaris_bt_logger_fman_rp_mqipc_t;
polaris_mqipc_type(polaris_bt_logger_fman_rp_mqipc_t)
# mq.-bt_logger_iosd
type polaris_bt_logger_iosd_mqipc_t;
polaris_mqipc_type(polaris_bt_logger_iosd_mqipc_t)

# mq.-bt_logger_smd
type polaris_bt_logger_smd_mqipc_t;
polaris_mqipc_type(polaris_bt_logger_smd_mqipc_t)

polaris_mqipc_create_name(polaris_bt_logger_t, polaris_bt_logger_dbm_mqipc_t, bt_logger_dbm)
polaris_mqipc_create_name(polaris_bt_logger_t, polaris_bt_logger_fman_rp_mqipc_t, bt_logger_fman-rp)
polaris_mqipc_create_name(polaris_bt_logger_t, polaris_bt_logger_iosd_mqipc_t, bt_logger_iosd)
polaris_mqipc_create_name(polaris_bt_logger_t, polaris_bt_logger_smd_mqipc_t, bt_logger_smd)

allow polaris_bt_logger_t self:capability { dac_override };

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbtlogger.te
No license file was found, but licenses were detected in source scan.

#
# November 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris gnmib Policy Rules.</summary>

#####################################################
### <summary>
### Create rule for ndbutil file ".l.schema_use.gnmib" under /var/lock/ndbutil
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### </param>
#
interface(`polaris_gnmib_ndbutil_lock',`
  gen_require(`
    type polaris_confd_ndbutil_lock_t;
    type polaris_gnmib_ndbutil_t;
  `)
  filetrans_pattern($1, polaris_confd_ndbutil_lock_t, polaris_gnmib_ndbutil_t, file, $2)
  manage_files_pattern($1, polaris_confd_ndbutil_lock_t, polaris_gnmib_ndbutil_t)
allow $1 polaris_gnmib_ndbutil_t:file { watch watch_reads }
')

#########################################################
## <summary>
## Allow reading gnoi image files
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
# interface('polaris_gnmib_gnoi_images_read',
    gen_require(
        type polaris_gnmib_gnoi_images_t;
    )
    read_files_pattern($1, polaris_gnmib_gnoi_images_t, polaris_gnmib_gnoi_images_t)
    mmap_files_pattern($1, polaris_gnmib_gnoi_images_t, polaris_gnmib_gnoi_images_t)
')

#########################################################
## <summary>
## Allow manage gnoi image files
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
# interface('polaris_gnmib_gnoi_images_manage',
    gen_require(
        type polaris_gnmib_gnoi_images_t;
    )
    manage_files_pattern($1, polaris_gnmib_gnoi_images_t, polaris_gnmib_gnoi_images_t)
    mmap_files_pattern($1, polaris_gnmib_gnoi_images_t, polaris_gnmib_gnoi_images_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisgnmib.if
No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky #
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polaristldldb, 1.0);

# Polaris tdldb (infra/tdllib)
type polaris_tdldb_t;
polaris_tdldb_type(polaris_tdldb_t)

attribute polaris_tdldb;

# any process creating tdldb in /tmp/rp/tdldb should transition into its domain
gen_require(`
   attribute domain;
`)
files_tmp_filetrans(domain, polaris_tdldb_t, dir, "tdldb")

# DB_DIR database is not described in TDL
type polaris_dir_db_tdldb_t;
polaris_tdldb_type(polaris_dir_db_tdldb_t)

type polaris_tdldbPersist_t;
polaris_tdldbType(polaris_tdldbPersist_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristldldb.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarislfts, 1.0);

# Polaris lfts
type polaris_lfts_device_t;
dev_node(polaris_lfts_device_t)

# "ip netns add foo" commands mounts "foo" under "/var/run/netns"
gen_require(
    type ifconfig_t;
    type var_run_t;
  )
allow ifconfig_t var_run_t:dir mounton;

# "ip netns exec 16 sysctl -w net.core.vrfid=16" commands mounts "16" to "/sys"
gen_require(
    type ifconfig_t;
    type unlabeled_t;
  )
allow ifconfig_t unlabeled_t:dir mounton;

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislfts.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#
/var/tmp/trace/nginx_access.log  gen_context(system_u:object_r:httpd_log_t, s0)
/var/tmp/trace/nginx_error.log   gen_context(system_u:object_r:httpd_log_t, s0)
/var/tmp/trace/nginx.pid        gen_context(system_u:object_r:httpd_log_t, s0)
/var/tmp/trace/nginx.lock.accept gen_context(system_u:object_r:httpd_log_t, s0)
/var/tmp/trace/nginx.lock.cookie_tbl gen_context(system_u:object_r:httpd_log_t, s0)
/var/tmp/trace/nginx.lock.login_count gen_context(system_u:object_r:httpd_log_t, s0)
/tmp/nginx_aaa                  gen_context(system_u:object_r:polaris_nginx_tmp_t, s0)
/tmp/nginx_master               gen_context(system_u:object_r:polaris_nginx_tmp_t, s0)
/tmp/nginx_session              gen_context(system_u:object_r:polaris_nginx_tmp_t, s0)

# /tmp base folder for nginx apps to create temporary files.
/tmp/nginx_webui_tmp -d  gen_context(system_u:object_r:polaris_nginx_tmp_t, s0)
/tmp/nginx -d  gen_context(system_u:object_r:polaris_nginx_tmp_t, s0)

# Polaris WebUI Aireos translator files
/usr/binos/conf/aireos_translate_helper.sh
gen_context(system_u:object_r:polaris_nginx_webui_aireos_translate_exec_t, s0)
/var/scripts/python/aireosConfigTranslator(/.*)? --
gen_context(system_u:object_r:polaris_aireso_translation_scripts_t,s0)

/var/scripts/webui_install.sh gen_context(system_u:object_r:polaris_nginx_webui_exec_t, s0)
/usr/binos/conf/webui_upgrade_helper.sh gen_context(system_u:object_r:polaris_nginx_webui_install_exec_t, s0)
/usr/binos/conf/webui_smu_helper.sh  gen_context(system_u:object_r:polaris_nginx_webui_install_exec_t, s0)
/usr/binos/conf/ra_trace_webui_helper.sh
gen_context(system_u:object_r:polaris_nginx_webui_trace_filter_exec_t, s0)
/usr/bin/os/conf/nginx-conf  gen_context(system_u:object_r:httpd_config_t, s0)
/usr/bin/os/conf/nginx-conf/servers  gen_context(system_u:object_r:httpd_config_t, s0)
/tmp/fts_client  gen_context(system_u:object_r:polaris_fts_client_tmp_t, s0)
/usr/bin/os/conf/nginx_helper.sh  gen_context(system_u:object_r:polaris_nginx_helper_exec_t, s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisnginx.fc
No license file was found, but licenses were detected in source scan.

#
# May 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarismdtpubd, 1.0);

gen_require('type polaris_mdt_pubd_t;
')
polaris_btrace_data_manage(polaris_mdt_pubd_t)
polaris_chasfs_manage(polaris_mdt_pubd_t)
polaris_tdlresolve_read(polaris_mdt_pubd_t)
polaris_tdlldb_list_dirs(polaris_mdt_pubd_t)
polaris_cpld_read(polaris_mdt_pubd_t)
polaris_lua_read(polaris_mdt_pubd_t)
polaris_flashlib_read(polaris_mdt_pubd_t)
polaris_ripc_sman_ui_serv_connect(polaris_mdt_pubd_t)
polaris_db_tdlldb_dir_use(polaris_mdt_pubd_t)

#For initializing capabilities DB cfg file
polaris_libeiutil_build_config_directory(polaris_mdt_pubd_t)
polaris_cfg_data_manage(polaris_mdt_pubd_t)

optional_policy('  # deals with /dev/shm/confd setup (schema and pid)
polaris_conf_shm_setup(polaris_mdt_pubd_t)
  # and allow read shared schema
polaris_conf_shared_schema_read(polaris_mdt_pubd_t)
  # read /proc/confd_pid/exe file
polaris_conf_read(polaris_mdt_pubd_t)
')

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6  607
# pubd could be configured to connect any port on DNAC
# please see cndp_setup_tcp_socket function
polaris_lfts_dev_use(polaris_mdt_pubd_t)
corenets_connect_all_ports(polaris_mdt_pubd_t)

polaris_ndbload_lock_use(polaris_mdt_pubd_t)
corenets_connect_polaris_pttcd_port(polaris_mdt_pubd_t)
corenets_bind_polaris_netconf_interceptor_port(polaris_mdt_pubd_t)
corenets_bind_all_unreserved_ports(polaris_mdt_pubd_t)

allow polaris_mdt_pubd_t self:capability { dac_override dac_read_search };

# create ndbutil directory under /var/lock
polaris_confd_ndbutil_create(polaris_mdt_pubd_t)
polaris_ndbutil_lock_template(polaris_mdt_pubd_t, pubd, ".l.schema_use.pubd")

# grpc library through sysconf accesses /sys/devices/system/cpu
# to get number of CPUs
dev_read_sysfs(polaris_mdt_pubd_t)

# handling /tmp/rp/.telemetry and /tmp/rp/telemetry

type polaris_mdt_pubd_tmp_t;

files_tmp_file(polaris_mdt_pubd_tmp_t)
files_tmp_filetrans(polaris_mdt_pubd_t, polaris_mdt_pubd_tmp_t, dir, "telemetry")
files_tmp_filetrans(polaris_mdt_pubd_t, polaris_mdt_pubd_tmp_t, dir, ".telemetry")
gen_require(
    type tmp_t;
    
)manage_dirs_pattern(polaris_mdt_pubd_t, { tmp_t polaris_mdt_pubd_tmp_t }, polaris_mdt_pubd_tmp_t)
manage_files_pattern(polaris_mdt_pubd_t, polaris_mdt_pubd_tmp_t, polaris_mdt_pubd_tmp_t, polaris_mdt_pubd_tmp_t)

# from evconfd_dynamic_load
polaris_confd_shared_schema_watch(polaris_mdt_pubd_t)

# allow grpc library to shutdown socket
allow polaris_mdt_pubd_t self:tcp_socket create_socket_perms;

# allow pubd to access logging facility
logging_send_syslog_msg(polaris_mdt_pubd_t)

# enabling access to /etc/hostname and /etc/hosts
polaris_namespace_set_netns_with_etc(polaris_mdt_pubd_t)
gen_require(
    type net_conf_t;
files_etc_filetrans(polaris_mdt_pubd_t, net_conf_t, file, "hosts")
files_etc_filetrans(polaris_mdt_pubd_t, net_conf_t, file, "resolv.conf")
files_etc_filetrans(polaris_mdt_pubd_t, net_conf_t, dir, "netns")

# allow pubd to create, modify, delete system network config files/dir
sysnet_manage_config(polaris_mdt_pubd_t)
sysnet_manage_config_dirs(polaris_mdt_pubd_t)

# allow pubd to connect socket
allow polaris_mdt_pubd_t self:udp_socket connect;

# allow pubd (object net_conf_t) to watch /etc/netns/1/resolv.conf
allow polaris_mdt_pubd_t net_conf_t:{file dir} watch;

# read access to /dev/random
dev_read_rand(polaris_mdt_pubd_t)

#DB persistence
polaris_tldlbpersist_setup(polaris_mdt_pubd_t)
polaris_tmp_tldlbpersist_setup(polaris_mdt_pubd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismdtpubd.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
#
# polarisstackmgr file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisstackmgr.fc
No license file was found, but licenses were detected in source scan.

dnl
dnl Mar 2020, Manu Roy
dnl
dnl Copyright (c) 2020 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl Hellcat Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/hellcatmaps.m4
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polaris_periodic, 1.0);

gen_require(`
    type polaris_periodic_t;
`)

corecmd_exec_bin(polaris_periodic_t)
corecmd_exec_shell(polaris_periodic_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_periodic_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_periodic_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_periodic_t)

# read /etc/init.d/common-utility-functions
init_read_script_files(polaris_periodic_t)

fs_getattr_all_fs(polaris_periodic_t)

# work with /tmp files
type polaris_periodic_tmp_t;
files_tmp_file(polaris_periodic_tmp_t)
manage_files_pattern(polaris_periodic_t, tmp_t, polaris_periodic_tmp_t)
files_tmp_filetrans(polaris_periodic_t, polaris_periodic_tmp_t, file)

allow polaris_periodic_t self:capability sys_resource;

polaris_btrace_data_manage(polaris_periodic_t)
polaris_chasfs_manage(polaris_periodic_t)
polaris_cpld_read(polaris_periodic_t)
polaris_proc_rmonbifo_read(polaris_periodic_t)
polaris_rmonbifo_tmp_read(polaris_periodic_t)
polaris_boot_tmp_read(polaris_periodic_t)
polaris_read_debug_conf(polaris_periodic_t)
polaris_persistent_manage(polaris_periodic_t)

# reads /tmp/issu_proc
polaris_install_tmp_read(polaris_periodic_t)

optional_policy(^
polaris_ncd_tmp_read(polaris_periodic_t)
^
)# "install add file" CLI triggers logger sending syslog messages
logging_send_syslog_msg(polaris_periodic_t)
# "install add file" CLI triggers logger executing "pidof linux_iosd-image" which
# read "/sys/devices/system/cpu/online"
dev_read_sysfs(polaris_periodic_t)
#
#/usr/binos/conf/cleanup.sh do_cleanup does packages and other umount calls
mount_domtrans(polaris_periodic_t)
polaris_sw_data_manage(polaris_periodic_t)

# determine if the installer is executing
domain_read_all_domains_state(polaris_periodic_t)

# access to /cdrom0/ when *ova image is booted during
# first instance of vwlc on ucs server
polaris_removable_read(polaris_periodic_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisperiodic.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/

/tmp/pm_post_result -- gen_context(system_u:object_r:polaris_ngwc_plfm_mgntmp_t_s0)
/tmp/microcode_update(/.*)? gen_context(system_u:object_r:polaris_ngwc_plfm_mgntmp_t_s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwcplfmrgmgr.fc
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
policy_module(polarisfpm, 1.0);

gen_require(
    type polaris_fpm_t;
)
polaris_chasfs_manage(polaris_fpm_t)
polaris_cpld_read(polaris_fpm_t)
polaris_flashlib_read(polaris_fpm_t)
polaris_tdlresolve_read(polaris_fpm_t)
polaris_ripc_sman_ui_serv_connect(polaris_fpm_t)
polaris_db_tdlldb_dir_use(polaris_fpm_t)
logging_send_syslog_msg(polaris_fpm_t)

# vconfd_load_shared_schemas
polaris_confd_shared_schema_read(polaris_fpm_t)

#/var/run/.fpmd socket and pid
type polaris_fpm_var_run_t;
files_pid_file(polaris_fpm_var_run_t)
manage_files_pattern(polaris_fpm_var_run_t, polaris_fpm_var_run_t, polaris_fpm_var_run_t)
manage_sock_files_pattern(polaris_fpm_var_run_t, polaris_fpm_var_run_t, polaris_fpm_var_run_t)
files_pid_filetrans(polaris_fpm_t, polaris_fpm_var_run_t, { file sock_file })
polaris_ttm_var_sock_write(polaris_fpm_t)

# fp_scaling_init calls posix_sysconf
dev_read_sysfs(polaris_fpm_t)

# PLEASE LOOK AT ME: write access to /boot/hugepage.conf
# which on ultra translates into /varied/hugepage.conf access
# But no code in polaris uses it
polaris_disk_varied_manage(polaris_fpm_t)
files_manage_boot_files(polaris_fpm_t)
polaris_cedge_tmpfs_manage(polaris_fpm_t)
polaris_fmrp2fpm_mqipc_use(polaris_fpm_t)

# manually create mqipc channel: missing in TDL
type polaris_fpm2fmrp_mqipc_t;
polaris_mqipc_type(polaris_fpm2fmrp_mqipc_t)
polaris_mqipc_create_name(polaris_fpm_t, polaris_fpm2fmrp_mqipc_t, fpm2fmrp_vulcan_mqipc)

# fp_scaling_read_core_count accesses cgroups file at
# /sys/fs/cgroup/cpuset/iosxe_control_processes/cpuset cpus
fs_read_cgroup_files(polaris_fpm_t)

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfpm.te
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
divert(-1)

include(`polaris_process.m4')
include(`polaris_process_te.m4')

include(`polaris_ipc_mqipc.m4')
include(`polaris_ipc_mqipc_te.m4')

include(`polaris_ipc_ripc.m4')
include(`polaris_ipc_ripc_te.m4')

include(`polaris_ipc_lipc.m4')
include(`polaris_ipc_lipc_te.m4')

dnl Stub out non existent one
define(`polaris_websocket_service_server',``)
define(`polaris_cipc_service_server',``)

include(`polaris_max_scope.m4')

divert(0)dnl
#
# This is a generated file! Instead of modifying this file,
# modify proper platform TDL file.
#
policy_module(polarisplatformipcauto, 1.0);

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_te.m4
No license file was found, but licenses were detected in source scan.
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris polarisbhytoolsd Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbhytoolsd.if
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/tmp/tdlresolve_tmp(/.*)?              gen_context(system_u:object_r:polaris_tdlresolve_t,s0)
/tmp/tdlresolve(/.*)?                 gen_context(system_u:object_r:polaris_tdlresolve_t,s0)
/usr/binos/conf/global.service.conf  -- gen_context(system_u:object_r:polaris_global_service_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristdlresolve.fc
No license file was found, but licenses were detected in source scan.

# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris ttm Policy Rules.</summary>

##################################################
## <summary>
##      Write ttm /var/run socket file
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </summary>
## </param>
#
interface('polaris_ttm_var_sock_write',
    gen_require(
        type polaris_ttm_t;
        type polaris_ttm_var_run_t;
        type var_run_t;
    )
    write_sock_files_pattern($1, var_run_t, polaris_ttm_var_run_t)
    allow $1 polaris_ttm_t:unix_stream_socket { connectto };
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristtm.if
No license file was found, but licenses were detected in source scan.

# # April 2017, Victor Kamensky
# # Copyright (c) 2017-2019 by Cisco Systems, Inc.
# # All rights reserved
#
## <summary>Polaris CYAN Policy Rules.</summary>

########################################################################
## <summary>
## Execute dyncfg in the dyncfg domain.
## </summary>
## <param name="domain">
## Domain allowed to transition.
## </param>
#
interface('polaris_dyncfg_domtrans',
    gen_require(
        type polaris_dyncfg_t, polaris_dyncfg_exec_t;
    )
    corecmd_search_bin($1)
    domtrans_pattern($1, polaris_dyncfg_exec_t, polaris_dyncfg_t)
)

########################################################################
## Make the specified domain able to read tmp file created by
## cyan_init.sh like /tmp/cyan/mono.cdb
## </summary>
### <param name="type">
###      <summary>
###      Domain allowed access.
###      </summary>
### </param>
#
interface('polaris_dyncfg_tmp_read',`
  gen_require(
    type polaris_dyncfg_tmp_t;
    type tmp_t;
  )

  read_files_pattern($1, { tmp_t polaris_dyncfg_tmp_t }, polaris_dyncfg_tmp_t)
  read_lnk_files_pattern($1, { tmp_t polaris_dyncfg_tmp_t }, polaris_dyncfg_tmp_t)
  allow $1 polaris_dyncfg_tmp_t:file map;

  # need by shell that is called from luajit script
  auth_read_passwd($1)
`)

########################################
## <summary>
##      Make the specified domain able to manage tmp file created by
cyan_init.sh like /tmp/cyan.lock
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_dyncfg_tmp_manage',`
  gen_require(
    type polaris_dyncfg_tmp_t;
    type tmp_t;
  )

  manage_files_pattern($1, { tmp_t polaris_dyncfg_tmp_t }, polaris_dyncfg_tmp_t)
  manage_lnk_files_pattern($1, { tmp_t polaris_dyncfg_tmp_t }, polaris_dyncfg_tmp_t)
  allow $1 polaris_dyncfg_tmp_t:file map;
`)

########################################
## <summary>
##      Execute /tmp/dyncfg/N intialization within given domain.
##
##      Effectively one need this if it needs to run dyncfg_db_run_init_script,
dyncfg_db_init functions within domain context.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
## Note it involves lua execution that leads to execmem. Also lua script
can execve shell and some other simple bin processes like mkdir or ln.

```java
interface("polaris_dyncfg_setup",
    gen_require(
        type polaris_dyncfg_tmp_t;
        type tmp_t;
    ));
files_tmp_filetrans($1, polaris_dyncfg_tmp_t, dir, "cyan")
manage_dirs_pattern($1, polaris_dyncfg_tmp_t, polaris_dyncfg_tmp_t)
manage_files_pattern($1, { tmp_t polaris_dyncfg_tmp_t }, polaris_dyncfg_tmp_t)
manage_lnk_files_pattern($1, { tmp_t polaris_dyncfg_tmp_t }, polaris_dyncfg_tmp_t)
allow $1 polaris_dyncfg_tmp_t:file map;

# dyncfg_setup calls luajit and luajit needs execute JIT generated code
allow $1 self:process execmem;

# LOOK AT ME lua initialization code still uses system function call do some
# trivial things like mkdir. But because of that we need to grant shell and
# bin access to all callers of
corecmd_exec_shell($1)
corecmd_exec_bin($1)

# In chassis_attrs.lua method THIS.WIRELESS checks whether wireless package is installed
# by opening (why open, not stat) wncmgrd binary.
optional_policy(
    gen_require(
        type polaris_wncmgrd_exec_t;
        type bin_t;
    ));
read_files_pattern($1, bin_t, polaris_wncmgrd_exec_t)
)

# lua code reads /tmp/sw/boot/rmonbifo/boardtype
polaris_rmonbifo_tmp_read($1)
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscyan.if
No license file was found, but licenses were detected in source scan.
# March 2017, Victor Kamensky
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved

policy_module(polariscppcp, 1.0);

general_require(`
    type polaris_cpp_cp_t;
`)

polaris_btrace_data_manage(polaris_cpp_cp_t)
polaris_crft_data_manage(polaris_cpp_cp_t)
polaris_chasfs_manage(polaris_cpp_cp_t)
polaris_tdlresolve_read(polaris_cpp_cp_t)
polaris_tdlldb_list_dirs(polaris_cpp_cp_t)
polaris_cpld_read(polaris_cpp_cp_t)
polaris_flashlib_read(polaris_cpp_cp_t)
polaris_ripc_sman_ui_serv_connect(polaris_cpp_cp_t)
polaris_db_tdlldb_dir_use(polaris_cpp_cp_t)
polaris_cpp_process(polaris_cpp_cp_t)
polaris_cpp_dev_use(polaris_cpp_cp_t)
polaris_icc_broken_relocations(polaris_cpp_cp_t)
logging_send_syslog_msg(polaris_cpp_cp_t)
polaris_cpp_cavium_sdk_ipc_use(polaris_cpp_cp_t)

# LOOK AT ME: raw memory access in cavium vendor SDK
# related to octeon driver (BUG CSCvh58515)
ifdef(`crankshaft_family',`
    polaris_dev_mem_use(polaris_cpp_cp_t)
`)

# cpp_palci_wallclock_time_ticks function reads /var/lock/subsys/sntp.offset
files_read_all_locks(polaris_cpp_cp_t)

# allow objstore access
polaris_disk_objstore_read(polaris_cpp_cp_t)

optional_policy(`
polaris_spa_dev_use(polaris_cpp_cp_t)
# handle geodb file access
polaris_geodb_files_manage(polaris_cpp_cp_t)

optional_policy(
  polaris_cbdma_dev_use(polaris_cpp_cp_t)
)
polaris_hkp_dev_use(polaris_cpp_cp_t)
  # Access /dev/astro
  polaris_astro_dev_use(polaris_cpp_cp_t)
polaris_vega_dev_use(polaris_cpp_cp_t)
)  
polaris_cpp_tmpfs_manage(polaris_cpp_cp_t)
polaris_cpld_dev_use(polaris_cpp_cp_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppcp.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscppstats, 1.0);

gen_require('  
  type polaris_cpp_stats_t;
  ')
polaris_btrace_data_manage(polaris_cpp_stats_t)
polaris_crft_data_manage(polaris_cpp_stats_t)
polaris_chasfs_manage(polaris_cpp_stats_t)
polaris_tdlresolve_read(polaris_cpp_stats_t)
polaris_tldldb_list_dirs(polaris_cpp_stats_t)
polaris_cpld_read(polaris_cpp_stats_t)
polaris_flashlib_read(polaris_cpp_stats_t)
polaris_ripc_sman_ui_serv_connect(polaris_cpp_stats_t)
polaris_cpp_tmp_files_use(polaris_cpp_stats_t)
  # works with /dev/cpp_dev_info, /dev/cpp and /dev/cpp_kipc
  polaris_cpp_dev_use(polaris_cpp_stats_t)
polaris_cpp_tmpfs_ifdev_rw(polaris_cpp_stats_t)
polaris_icc_broken_relocations(polaris_cpp_stats_t)

# get attributes of /dev/shm from glibc where_is_shmfs function
fs_getattr_tmpfs(polaris_cpp_stats_t)

optional_policy(
  polaris_cbdma_dev_use(polaris_cpp_stats_t)
)
polaris_cpp_tmpfs_manage(polaris_cpp_stats_t)
polaris_cpld_dev_use(polaris_cpp_stats_t)

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppstats.te
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarislm, 1.0);

gen_require(
  type polaris_lm_t;
)
polaris_btrace_data_manage(polaris_lm_t)
polaris_crft_data_manage(polaris_lm_t)
polaris_chasfs_manage(polaris_lm_t)
polaris_tdlresolve_read(polaris_lm_t)
polaris_tdlldb_list_dirs(polaris_lm_t)
polaris_cpld_read(polaris_lm_t)
polaris_flashlib_read(polaris_lm_t)
polaris_ripc_sman_ui_serv_connect(polaris_lm_t)

allow polaris_lm_t self:capability { dac_override };

# allow to read /proc/mtd
kernel_read_system_state(polaris_lm_t)

# work with /tmp files (/tmp/iosd_level)
type polaris_lm_tmp_t;
files_tmp_file(polaris_lm_tmp_t)
files_tmp_filetrans(polaris_lm_tmp_t, polaris_lm_tmp_t, file, "iosd_level")
files_tmp_filetrans(polaris_lm_t, polaris_lm_tmp_t, file, "stack_apcount")
manage_files_pattern(polaris_lm_t, tmp_t, polaris_lm_tmp_t)

polaris_dyncfg_tmp_read(polaris_lm_t)

polaris_disk_license_manage(polaris_lm_t)

polaris_disk_csl_manage(polaris_lm_t)

logging_send_syslog_msg(polaris_lm_t)

polaris_lua_read(polaris_lm_t)
# permission to access /tmp/rp/lipc/lmanrtu_stackrtu_socket
# polaris_lm_t policy
allow polaris_lm_t self:unix_stream_socket connectto;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislm.te
No license file was found, but licenses were detected in source scan.

#
# August 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/bin/os/conf/flash_check.sh -- gen_context(system_u:object_r:polaris_flashcheck_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisflashcheck.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

cpolicy_module(polarislipc, 1.0);

# LIPC policy

gen_require(
    type polaris_pvp_t;
    attribute polaris_extended_domain;
)
type polaris_lipc_t;
files_type(polaris_lipc_t)

files_tmp_filetrans(polaris_extended_domain, polaris_lipc_t, dir, "lipc")
init_script_tmp_filetrans(polaris_extended_domain, polaris_lipc_t, dir, "lipc")

# in some cases pvp.sh creates lipc tmp directory it needs permissions for that
manage_dirs_pattern(polaris_pvp_t, tmp_t, polaris_lipc_t)

gen_require(
   attribute polaris_extended_domain;
   type polaris_pvp_tmp_t;
')
filetrans_pattern(polaris_extended_domain, polaris_pvp_tmp_t, polaris_lipc_t, dir, "lipc")

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislipc.te
No license file was found, but licenses were detected in source scan.

#
# September 2018, Anubha Balani
#
# Copyright (c) 2018-2019 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris Memory Service Policy Rules.</summary>

########################################################################
# Polaris memory: libmaroon and such
########################################################################

########################################################################
## <summary>
##      Allow the specified domain to check existence of
## /lib/systemd/system/ksm.service file. Effectively checking
## whether KSM kernel feature is enabled on device or not.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_ksm_run_check',`
gen_require(`}
type systemd_unit_file_t;

getattr_files_pattern($1, systemd_unit_file_t, systemd_unit_file_t)

#######################################
## <summary>
##      Manage temporary maroon files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
# manage temporary files in maroon_stats directory
manage_files_pattern($1, polaris_maroon_base_t, polaris_maroon_base_t)

#######################################
## <summary>
##	Make the specified type usable as maroon data file type.
## </summary>
## <param name="type">
##	<summary>
##	Type to be used for files.
##	</summary>
## </param>
# files_type($1)
gen_require(
    attribute polaris_maroon_data_domain;
    typeattribute $1 polaris_maroon_data_domain;
)

### <summary>
### Process to manage its own maroon files
### </summary>
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
### <param name="file_type">
### <summary>
### File type of maroon that corresponds to given domain.
### </summary>
### </param>
#
interface(`polaris_maroon_data_client',`
    gen_require(`
        type polaris_maroon_base_t;
    `)

    manage_files_pattern($1, polaris_maroon_base_t, $2)
    allow $1 $2:file map;
    filetrans_pattern($1, polaris_maroon_base_t, $2, file)
`)

### <summary>
### Process to manage its own maroon files
### </summary>
### <param name="domain_stem">
### <summary>
### Domain allowed access.
### </summary>
### </param>
#
interface(`polaris_maroon_data_client_template',`
    gen_require(`
        type polaris_$1_maroon_t;
        polaris_maroon_data_type(polaris_$1_maroon_t)
    `)

    type polaris_$1_maroon_t;
    polaris_maroon_data_type(polaris_$1_maroon_t)
    polaris_maroon_data_client(polaris_$1_t, polaris_$1_maroon_t)
`)

---

Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 624
## <summary>
## Getattr of polaris_zram_device_t files
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>

interface(`polaris_zram_getattr`,
  gen_require(`
    type device_t;
    type polaris_zram_device_t;
  `)
  getattr_blk_files_pattern($1, device_t, polaris_zram_device_t)
`)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismemory.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/bootflash/.dbpersist(/.*)? gen_context(system_u:object_r:polaris_disk_dbm_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdbm.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisreflector, 1.0);
polaris_process_domain_template(reflector)
corecmd_exec_bin(polaris_reflector_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_reflector_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_reflector_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_reflector_t)

# read /etc/hosts file
sysnet_read_config(polaris_reflector_t)

# work with /tmp files

type polaris_reflector_tmp_t;
fds_tmp_file(polaris_reflector_tmp_t)
manage_dirs_pattern(polaris_reflector_t, tmp_t, polaris_reflector_tmp_t)
manage_files_pattern(polaris_reflector_t, polaris_reflector_tmp_t, polaris_reflector_tmp_t)
manage_fifo_files_pattern(polaris_reflector_t, polaris_reflector_tmp_t, polaris_reflector_tmp_t)
files_tmp_filetrans(polaris_reflector_t, polaris_reflector_tmp_t, { file dir })

# reflector can work with droputil tmp files
polaris_droputil_manage_tmp_files(polaris_reflector_t)

# rsync_exec(polaris_reflector_t)
gen_require(`
  type rsync_t;
  
  rsync_entry_domtrans(polaris_reflector_t, rsync_t)
allow rsync_t polaris_reflector_t:process sigchld;
# upon exec rsync inherits reflector.sh stdout/stdio which are
# polaris_reflector_t fifo_files
allow rsync_t polaris_reflector_t:fifo_file write;

allow polaris_reflector_t self:capability { sys_resource dac_override }; allow polaris_reflector_t self:process setpgid;

polaris_btrace_data_manage(polaris_reflector_t)
polaris_cpld_read(polaris_reflector_t)
polaris_chasfs_manage(polaris_reflector_t)
polaris_boot_tmp_read(polaris_reflector_t)
polaris_read_debug_conf(polaris_reflector_t)
polaris_disk_crashinfo_getattr(polaris_reflector_t)
polaris_rmonbifo_tmp_read(polaris_reflector_t)

# watch over /tmp/rp/dropbox
polaris_droputil_tmp_watch(polaris_reflector_t)
# Allow /tmp/ufs/bootflash & /tmp/ufs/harddisk read access
optional_policy(
  polaris_nccd_tmp_read(polaris_reflector_t)
)

# 'rm -rf /tmp/rp/reflector'
fs_getattr_tmpfs(polaris_reflector_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisreflector.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarispman, 1.0);

polaris_process_domain_template(pman)

#reassess all permissions granted here for new pman
# - do we clone this domain to pmanc, or replace it?

gen_require(
  type polaris_psvp_t;
      type polaris_pvp_t;
  )

corecmd_exec_bin(polaris_pman_t)
corecmd_exec_shell(polaris_pman_t)
# can execute process in polaris domain
polaris_exec(polaris_pman_t)

# LOOK AT ME start-stop-daemon from busy box iterates all
# /proc/<pid> directories and reads /proc/<pid>/cmdline
# /proc/<pid>/exe. I.e it need quite a bit of priviledges
domain_read_all_domains_state(polaris_pman_t)

# pman wants to write to /proc/<pid>/oom_adj of each process
# it started. Now oom_adj is under label of process that owns
# it, so for now let pman to be able to write into any file
# in polaris_domain. Latter try to clean it up by transitioning
# oom_adj into separate domain?
gen_require(“}
attribute polaris_domain;
')
manage_files_pattern(polaris_pman_t, polaris_domain, polaris_domain)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_pman_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_pman_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_pman_t)

# read /proc/sys/vm/hr_hugepages
kernel_read_vm_sysctls(polaris_pman_t)

# read/write cgroups files
fs_rw_cgroup_files(polaris_pman_t)

dmidecode_domtrans(polaris_pman_t)

allow polaris_pman_t self:capability { sys_nice sys_resource dac_override sys_rawio sys_admin };

polaris_btrace_data_manage(polaris_pman_t)
polaris_chasfs_manage(polaris_pman_t)
polaris_cpld_read(polaris_pman_t)
ifdef(`ngwc_family',`
polaris_cpld_write(polaris_pman_t)
')
polaris_proc_rmonbifo_read(polaris_pman_t)
polaris_rmonbifo_tmp_read(polaris_pman_t)
polaris_boot_tmp_read(polaris_pman_t)
polaris_read_debug_conf(polaris_pman_t)
polaris_disk_crashinfo_getattr(polaris_pman_t)

# work with /tmp files

type polaris_pman_tmp_t;
files_tmp_file(polaris_pman_tmp_t)
manage_dirs_pattern(polaris_pman_t, tmp_t, polaris_pman_tmp_t)
manage_files_pattern(polaris_pman_t, polaris_pman_tmp_t, polaris_pman_tmp_t)
manage_fifo_files_pattern(polaris_pman_t, polaris_pman_tmp_t, polaris_pman_tmp_t)
files_tmp_filetrans(polaris_pman_t, polaris_pman_tmp_t, { file dir })
filetrans_pattern(domain, tmp_t, polaris_pman_tmp_t, dir, "process")
filetrans_pattern(domain, tmp_t, polaris_pman_tmp_t, dir, "pman_ports")

# pcohort reads files in /tmp/rp/process directory
gen_require(`
    attribute polaris_extended_domain;
read_files_pattern(polaris_extended_domain, polaris_pman_tmp_t, polaris_pman_tmp_t)
list_dirs_pattern(polaris_extended_domain, polaris_pman_tmp_t, polaris_pman_tmp_t)

# bash needs setpgid in its make_child function
allow polaris_pman_t self:process { setpgid };

# pmanlite uses getsid
allow polaris_pman_t self:process { getsession };

# pman call renice utility to change process nice level
allow polaris_pman_t self:process { setsched };

# pman needs to work with pvp tmp files
polaris_pvp_manage_tmp_files(polaris_pman_t)

# on ultra pman waits for /tmp/cpp_ifdev_rep pipes appearence before
# proceeding further before it starts iosd
optional_policy(
  polaris_cpp_tmp_ifdev_getattr(polaris_pman_t)
)

# /tmp/vxe_ucode_image created by some systemd units and accessed
# by pman, lets transition it into polaris_pman_tmp_t domain
gen_require(
  type initrc_t;
  type init_t;
)
files_tmp_filetrans({ initrc_t init_t }, polaris_pman_tmp_t, file, "vxe_ucode_image")
files_tmp_filetrans({ initrc_t init_t }, polaris_pman_tmp_t, file, "wlc_ucode_image")
files_tmp_filetrans({ initrc_t init_t }, polaris_pman_tmp_t, file, "utah_ucode_image")
files_tmp_filetrans({ initrc_t init_t }, polaris_pman_tmp_t, file, "fugazi_ucode_image")

# pman needs to manage cgroups membership of dofferent processes
# See move_to_cgroup pman function. It needs setsched permission
domain_setpriority_all_domains(polaris_pman_t)

# pman.sh can call logger command
logging_send_syslog_msg(polaris_pman_t)

# pman can receive signals from any polaris domain process
polaris_receive_signal_from_domain(polaris_pman_t)

# pman.sh calls pidof command (similar to ps)
# pidof needs access to /sys/devices/system/cpu/online
dev_read_sysfs(polaris_pman_t)
# pidof commands wants sys_ptrace
allow polaris_pman_t self:capability sys_ptrace;
# pman can send signal to anything
domain_signal_all_domains(polaris_pman_t)

# pmanlite can getpgid to its child group processes
domain_getpgid_all_domains(polaris_pman_t)

# pmanlite uses killpg(<child pid>,SIGNULL) to test its child processes
domain_signal_all_domains(polaris_pman_t)

term_use_unallocated_ttys(polaris_pman_t)

optional_policy(''
polaris_repm_tmp_manage(polaris_pman_t)
’)

optional_policy(''
# pman on nyquist ls /tmp/ufs/crashinfo
polaris_ncd_tmp_read(polaris_pman_t)
’)

# runs find over /proc
kernel_getattr_proc(polaris_pman_t)

# PLEASE LOOK AT ME: pman removes /tmp/subpkg directory after CSCvm14562 commit
# back out and change properly after CSCvm51181 is fixed
polaris_install_tmp_manage(polaris_pman_t)

# rm from coreutils-8.30 wants to know filesystem type
fs_getattr_tmpfs(polaris_pman_t)
fs_getattr_xattr_fs(polaris_pman_t)

# domain for gdbserver started by pman
polaris_utility_domain_template(gdb)

domtrans_pattern(polaris_pman_t, polaris_gdb_exec_t, polaris_gdb_t)

# pman starts gdbserver with stdout pointing to btrace fifo
polaris_use_btrace_fifo(polaris_gdb_t)

# gdbserver reads /proc/$pid/exe of a process it gets attached to.
# Allow to read state of all processes for now.
domain_read_all_domains_state(polaris_gdb_t)

# allow gdbserver to bind to all unreserved ports for now
corenet_tcp_bind_unreserved_ports(polaris_gdb_t)
corenet_tcp_bind_generic_node(polaris_gdb_t)
allow polaris_gdb_t self:process { ptrace setpgid };
allow polaris_gdb_t self:tcp_socket { accept bind create getattr listen setopt };

# pman update iosxe_control_processes/iosxe_mgmt_processes/tasks
fs_manage_cgroup_dirs(polaris_pman_t)
fs_manage_cgroup_files(polaris_pman_t)

optional_policy('container_runtime_domtrans(polaris_pman_t)
')

# pman calls show_version for dockerd executable
optional_policy('polaris_container_runtime_show_version(polaris_pman_t)
')

# needs to access nsfs file during killall invocation
fs_read_nsfs_files(polaris_pman_t)

# runs over /proc/<pid>/net/arp
kernel_read_network_state(polaris_pman_t)

# runs over /proc/<pid>/net/stat
kernel_read_network_state_symlinks(polaris_pman_t)

# runs over /proc/<pid>/net/rpc
kernel_read_rpc_sysctls(polaris_pman_t)

# LOOK AT ME: why pman doing it
# from mgmt/confd/confd/src/confd_startup_sh_post_exit.sh archive_errlog function
polaris_btrace_persistent_data_manage(polaris_pman_t)
polaris_confd_log_manage(polaris_pman_t)
allow polaris_pman_t self:process setfscreate;

# access /bootflash/.installer/install_issu_state
polaris_disk_install_read(polaris_pman_t)

# /usr/binos/conf/umbrella_init.sh that runs under pman
# copies into /bootflash/ios_core.p7b
polaris_bootflash_manage(polaris_pman_t)

optional_policy('polaris_rw_exiting_bays(polaris_pman_t)
')

ifdef('ngwc_family',`
# linux_iosd_image_post_exit.sh restores the slot-based address
# for the management ethernet should be restored on dual RP system.
polaris_chvrf_domtrans(polaris_pman_t)
sysnet_domtrans_ifconfig(polaris_pman_t)

# For use of flashutil preparing for reload
polaris_flashlib_read(polaris_pman_t)
polaris_flashlib_write(polaris_pman_t)
)

# File description leaks for TDL db lock files as processes are managed by
# pman.
# TODO Eventually these fd leaks should be fixed in the calling processes
#
# Note that TDL db lock file interfaces are typically generated by TDL and
# are not found in our local .if files
polaris_tdlresolve_read(polaris_pman_t)
polaris_db_tdldb_ios_oper_use(polaris_pman_t)

ifdef(`nyquist_platform`,
polaris_db_tdldb_ewlc_operational_use(polaris_pman_t)
polaris_db_tdldb_rogued_use(polaris_pman_t)
polaris_db_tdldb_ewlc_config_use(polaris_pman_t)
polaris_db_tdldb_wstatsd_use(polaris_pman_t)
polaris_db_tdldb_client_global_use(polaris_pman_t)
)

# delete /tmp/booted from linux_iosd_image_post_exit.sh when iosd goes down.
# For example: preparing for reload.
gen_require(`
    type polaris_iosd_tmp_files_t;
')
allow polaris_pman_t polaris_iosd_tmp_files_t:file { delete_file_perms open };

# Upon exit of a process, pman needs to remove sai directory and files
# associated with the process
polaris_pvp_delete_sai_files(polaris_pman_t)
#rsync port want to establish Tcp connection
#runs over /usr/bin/rsync
corenets_tcp_connect_rsync_port(polaris_pman_t)
rsync_entry_type(polaris_pman_t)

ifdef(`crankshaft_family`,
# Provide process signal perms to pman.
polaris_caf_proc_signal_perms(polaris_pman_t)
)

# open connections from processes managed by pman can leak. The selinux
# errors associated with these typically come from a forked and renamed
# elastic process like wncd_0. During process forking/startup, node
# binds may cause denials as they are brought up by pman
ifdef(`ngwc_family',`
    corenet_tcp_bind_generic_node(polaris_pman_t)
corenet_udp_bind_generic_node(polaris_pman_t)
corenet_tcp_connect_lisp_cons_control_port(polaris_pman_t)
')

# pman can stop itself on reload
allow polaris_pman_t self:capability kill;

# For pmanlite, allow pman's grand-children rsync to be able to operate on pipe created by pman.
gen_require(`
    type rsync_t;
')
polaris_use_pman_fifo(rsync_t)

ifdef(`sumatra_platform',`
# Allow pman to execute cman_fp in the polaris_cm_fp_t domain
polaris_cm_fp_domtrans(polaris_pman_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispman.te
No license file was found, but licenses were detected in source scan.

dnl

dnl April 2018, Victor Kamensky

dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved

dnl Nyquist Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

dnl in elastic scope each process has its own value
max_elastic_map_set(`rp', `elastic', BPROC_ODM, 0)
max_elastic_map_set(`cc', `elastic', BPROC_ODM, 0)
max_elastic_map_set(`fp', `elastic', BPROC_ODM, 0)

max_elastic_map_set(`rp', `elastic', BPROC_WNCD, 0)
max_elastic_map_set(`cc', `elastic', BPROC_WNCD, 0)
max_elastic_map_set(`fp', `elastic', BPROC_WNCD, 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/nyquistsmaps.m4
No license file was found, but licenses were detected in source scan.

#  
# Aug 2020, Sridhar  
#  
# Copyright (c) 2020 by Cisco Systems, Inc.  
# All rights reserved  
#  

### <summary>Polaris xcopy Policy Rules.</summary>

########################################################################
### <summary>
### Execute xcopy related scripts in its own domain.
### </summary>
### <param name="domain">
### Domain allowed to transition.
### </param>
#  
interface(`polaris_xcopy_script_domtrans',
        gen_require(
            type polaris_xcopy_script_t, polaris_xcopy_script_exec_t;
        ')
        domtrans_pattern($1, polaris_xcopy_script_exec_t, polaris_xcopy_script_t)
    ')

#  
########################################################################
### <summary>
### xcopy progress temp file access
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
### </param>
### <rolebase/>
#  
interface(`polaris_xcopy_tmp_manage',
gen_require(
    type polaris_xcopy_tmp_t;
')
    manage_dirs_pattern($1,polaris_xcopy_tmp_t, polaris_xcopy_tmp_t)
    manage_files_pattern($1,polaris_xcopy_tmp_t, polaris_xcopy_tmp_t)
')
Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6  635

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisxcopy.if
No license file was found, but licenses were detected in source scan.

# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris dmi_ncsshd_mgmt Policy Rules.</summary>

### <summary>Read polaris_ncsshd_keys_t files, effectively access /tmp/ncsshd_authorized_keys created by psd and read by ncsshd</summary>

```c
interface(`polaris_ncsshd_authorized_keys_read',
    gen_require(`
        type polaris_ncsshd_keys_t;
    ')
    read_files_pattern($1, polaris_ncsshd_keys_t, polaris_ncsshd_keys_t)
    list_dirs_pattern($1, polaris_ncsshd_keys_t, polaris_ncsshd_keys_t)
')
```

### <summary>Watch /var/run/netns and list contents</summary>

```c
interface(`polaris_watch_netns',
    gen_require(`
        type ifconfig_var_run_t;
    ')
    list_dirs_pattern($1, ifconfig_var_run_t, ifconfig_var_run_t)
    allow $1 ifconfig_var_run_t:dir watch;
```
/*

### <summary>
### Manage polaris_pttcd_tmp_t files, effectively files
### under /tmp/tmppub/interceptor
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
# interface('polaris_interceptor_manage',
    gen_require(
        type polaris_pttcd_tmp_t;
    )
    manage_files_pattern($1, polaris_pttcd_tmp_t, polaris_pttcd_tmp_t)
    manage_dirs_pattern($1, polaris_pttcd_tmp_t, polaris_pttcd_tmp_t)
    allow $1 polaris_pttcd_tmp_t:{ dir file } watch;
);

### <summary>
### Execute a domain transition to run ncsshd polaris process.
### </summary>
### <param name="domain">
### Domain allowed to transition.
### </param>
#
# interface('polaris_ncsshd_mgmt_domtrans',
    gen_require(
        type polaris_dmi_ncsshd_mgmt_t, polaris_dmi_ncsshd_mgmt_exec_t;
    )
    domtrans_pattern($1, polaris_dmi_ncsshd_mgmt_exec_t, polaris_dmi_ncsshd_mgmt_t)
);

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmincsshdmgmt.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
## <summary>Polaris cm_rp Policy Rules.</summary>

### Execute cmd_fp in the polaris_cm_fp_t domain.

### Domain allowed to transition.

### Write into fifo file created by cmrp, typical case when cmrp starts script under popen.

### Domain allowed access.

### Write/read /tmp/pfu_oirtime.lock file
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cm_rp_tmp_manage',
    gen_require(
        type polaris_cm_rp_tmp_t;
        type tmp_t;
    )
    manage_dirs_pattern($1, { tmp_t polaris_cm_rp_tmp_t }, polaris_cm_rp_tmp_t)
    manage_files_pattern($1, { tmp_t polaris_cm_rp_tmp_t }, polaris_cm_rp_tmp_t)
)

#######################################
## <summary>
##      Setup policies to access dir and file
##       /vol/harddisk/.inv/inv_log_file
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cm_rp_inv_log_setup',
    gen_require(
        type polaris_cm_rp_inv_log_file_t;
        type polaris_disk_harddisk_t;
        type polaris_disk_bootflash_t;
    )
    filetrans_pattern($1, {polaris_disk_harddisk_t polaris_disk_bootflash_t}, polaris_cm_rp_inv_log_file_t, dir,
        ".inv")
    # allow access to /vol/harddisk/inv
    manage_dirs_pattern($1, {polaris_disk_harddisk_t polaris_disk_bootflash_t}, polaris_cm_rp_inv_log_file_t)
    # allow access to /vol/harddisk/inv/inv_log_file
    manage_files_pattern($1, {polaris_cm_rp_inv_log_file_t}, polaris_cm_rp_inv_log_file_t)
)

########################################
## <summary>
##     Write into /tmp/codesign.txt file created by cm_rp
## </summary>
## <param name="domain">
##     <summary>
##     Domain allowed to transition.
##     </summary>
## </param>
#
interface('polaris_cm_rp_tmp_write',
  gen_require(
    type polaris_cm_rp_tmp_t;
  )
  write_files_pattern($1, { tmp_t polaris_cm_rp_tmp_t }, polaris_cm_rp_tmp_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.10/selinux-tar/selinux/polariscmrp.if
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisvdaemon, 1.0);

gen_require(
  type polaris_vdaemon_t;
')
polaris_chasfs_manage(polaris_vdaemon_t)
# read and write /bootflash/sdwan/etc/vdaemon_gen_id
polaris_bootflash_manage(polaris_vdaemon_t)
polaris_tdlresolve_read(polaris_vdaemon_t)
polaris_cpld_read(polaris_vdaemon_t)
polaris_flashlib_read(polaris_vdaemon_t)
polaris_ripc_sman_ui_serv_connect(polaris_vdaemon_t)
polaris_db_tldldb_dir_use(polaris_vdaemon_t)
logging_send_syslog_msg(polaris_vdaemon_t)

# vconfd_load_shared_schemas
polaris_confd_shared_schema_read(polaris_vdaemon_t)

# manage /etc/viptela
polaris_cedge_etc_manage(polaris_vdaemon_t)

polaris_cedge_reset_ns(polaris_vdaemon_t)

# calls ifconfig for tun_0_0 interface
sysnet_domtrans_ifconfig(polaris_vdaemon_t)
# calls dmidecode get system serial number
dmidecode_domtrans(polaris_vdaemon_t)

# /var/run/vdaemon socket and pid
type polaris_vdaemon_var_run_t;
files_pid_file(polaris_vdaemon_var_run_t)
manage_files_pattern(polaris_vdaemon_t, polaris_vdaemon_var_run_t, polaris_vdaemon_var_run_t)
manage_sock_files_pattern(polaris_vdaemon_t, polaris_vdaemon_var_run_t, polaris_vdaemon_var_run_t)
files_pid_filetrans(polaris_vdaemon_t, polaris_vdaemon_var_run_t, { file sock_file })
polaris_ttm_var_sock_write(polaris_vdaemon_t)

# generate_instance_uuid reads /sys/devices/virtual/dmi/id/product_uuid
dev_read_sysfs(polaris_vdaemon_t)

# vip_util_set_fd_limits calls setrlimit
allow polaris_vdaemon_t self:process { setrlimit setpgid };
allow polaris_vdaemon_t self:capability { dac_override fowner sys_resource };

# vdaemon_init_tunn_intf initialize tun_0_0 in vrf 1
allow polaris_vdaemon_t self:tun_socket create;
corenet_rw_tun_tap_dev(polaris_vdaemon_t)
polaris_persistent_watch(polaris_vdaemon_t)
# from vdaemon_misc.c vdaemon_init_inotify function
polaris_cedge_etc_watch(polaris_vdaemon_t)

# set_netns_with_etc mounts on / and /sys
# set_netns_with_etc opens /etc/netns/1 dir
polaris_namespace_set_netns_with_etc(polaris_vdaemon_t)
# DNS thread complains about tmp_t mounton
# on /sys when switching namespace
gen_require(
    type tmp_t;
)
allow polaris_vdaemon_t tmp_t:dir mounton;

# vip_util_set_ns opens /var/run/netns/*
polaris_cedge_set_ns(polaris_vdaemon_t)
# vip_dns_process_request switches namespace from linux n/w namespace to
# original mount namespace
allow polaris_vdaemon_t self:capability { net_admin sys_chroot };
allow polaris_vdaemon_t self:udp_socket { bind connect create getattr getsockopt setsockopt shutdown };

# control linux routes vip_route_delete and vdaemon_setup_system_ip_route
allow polaris_vdaemon_t self:netlink_route_socket { bind create getattr nlmmsg_read nlmmsg_write };
# binds to vbond udp ports
corenet_udp_bind_generic_node(polaris_vdaemon_t)
corenet_udp_bind_polaris_vbond_port(polaris_vdaemon_t)

# though default ports exist, users can configure the tcp ports in vManage and vSmart
corenet_tcp_connect_all_ports(polaris_vdaemon_t)

# vbond_proc_hello executes VIP_CDB_BACKUP_SCRIPT
polaris_confd_domtrans(polaris_vdaemon_t)
# VIP_CDB_BACKUP_SCRIPT makes use of /etc/confd/confd_ipc_secret
auth_map_passwd(polaris_vdaemon_t)

# vdaemon_write_authorized_keys_to_ncsshd opens VDAEMON_NCSSHD_AUTH_KEY_FILE file
polaris_ncsshd_keys_manage(polaris_vdaemon_t)
# vbond_encode_version opens /etc/version
polaris_confd_etc_read(polaris_vdaemon_t)

# generate_or_parse_uuid() invokes uuid_generate that needs read on
# random-number generator devices (e.g., /dev/random).
dev_read_rand(polaris_vdaemon_t)

# vdaemon_exec_iptables() is invoked by vdaemon all over the place
iptables_domtrans(polaris_vdaemon_t)

allow polaris_vdaemon_t self:capability net_raw;
allow polaris_vdaemon_t self:rawip_socket create_socket_perms;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisvdaemon.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris fman_rp Policy Rules.</summary>

#########################################################
## <summary>
##      Manage mqipc fmrp2fpm shared memory file in /dev/shm directory
## </summary>
## <summary>
##      Domain allowed access.
## </summary>
##      </summary>
## </param>
#
interface('polaris_fmrp2fpm_mqipc_use,'
  gen_require('
  type polaris_fmrp2fpm_mqipc_t;
  ')
  polaris_mqipc_use($1, polaris_fmrp2fpm_mqipc_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfmanrp.if
No license file was found, but licenses were detected in source scan.

dnl
dnl Copyright (c) 2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl confined and permissive domain maps
divert(-1)
define('permissive_domain', `defn(format(``permissive_domain[%s]", `$1'))')
define('permissive_domain_set', `define(format(``permissive_domain[%s]", `$1"", `$2'))

define('confined_domain', `defn(format(``confined_domain[%s]", `$1'))')
define('confined_domain_set', `define(format(``confined_domain[%s]", `$1"", `$2'))


dnl
dnl list of all subjects that should be in confined mode
dnl
confined_domain_set(`polaris_iosd_t', `polaris_iosd_t')

dnl
dnl list of all subjects that should be placed in permissive mode
dnl
permissive_domain_set(`polaris_nginx_t', `polaris_nginx_t')
permissive_domain_set(`polaris_nginx_webui_t', `polaris_nginx_webui_t')
permissive_domain_set(`polaris_nginx_webui_install_t', `polaris_nginx_webui_install_t')
divert(0)dnl

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/domainmaps.m4
No license file was found, but licenses were detected in source scan.
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwcfed.fc
No license file was found, but licenses were detected in source scan.

policy_module(polarisrollbacktimer, 1.0);

polaris_process_domain_template(rbtimer)

corecmd_exec_bin(polaris_rbtimer_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_rbtimer_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_rbtimer_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_rbtimer_t)

# work with /tmp files

type polaris_rbtimer_tmp_t;

files_tmp_file(polaris_rbtimer_tmp_t)

manage_dirs_pattern(polaris_rbtimer_t, tmp_t, polaris_rbtimer_tmp_t)
manage_files_pattern(polaris_rbtimer_t, polaris_rbtimer_tmp_t, polaris_rbtimer_tmp_t)
manage_fifo_files_pattern(polaris_rbtimer_t, polaris_rbtimer_tmp_t, polaris_rbtimer_tmp_t)
files_tmp_filetrans(polaris_rbtimer_t, polaris_rbtimer_tmp_t, { file dir })

# work with /bootflash/.rollback_timer (RBT_CONTROL_DIR) file
type polaris_rbtimer_bootflash_t;
polaris_disk_type(polaris_rbtimer_bootflash_t)
polaris_rbtimer_bootflash_manage(polaris_rbtimer_t)

allow polaris_rbtimer_t self:capability sys_resource;
allow polaris_rbtimer_t self:capability dac_override;
allow polaris_rbtimer_t self:process setpgid;

polaris_btrace_data_manage(polaris_rbtimer_t)
polaris_chasfs_manage(polaris_rbtimer_t)
polaris_cpld_read(polaris_rbtimer_t)
polaris_boot_tmp_read(polaris_rbtimer_t)
polaris_read_debug_conf(polaris_rbtimer_t)
polaris_proc_rmonbifo_read(polaris_rbtimer_t)
polaris_rmonbifo_tmp_read(polaris_rbtimer_t)
polaris_disk_crashinfo_getattr(polaris_rbtimer_t)
polaris_disk_harddisk_read_lnk(polaris_rbtimer_t)
polaris_bootflash_manage(polaris_rbtimer_t)

logging_send_syslog_msg(polaris_rbtimer_t)

# uses pidof
domain_read_all_domains_state(polaris_rbtimer_t)
dev_read_sysfs(polaris_rbtimer_t)

# rollbacktimer runs install_engine.sh
polaris_install_engine_domtrans(polaris_rbtimer_t)

polaris_script_errmsg_use(polaris_rbtimer_t)

# watch over /bootflash/.rollback_timer
allow polaris_rbtimer_t polaris_rbtimer_bootflash_t:dir watch;
# watch over /tmp/rollback_timer
allow polaris_rbtimer_t polaris_rbtimer_tmp_t:dir watch;

# access to /tmp/ufs//crashinfo
optional_policy(
  polaris_ncd_tmp_read(polaris_rbtimer_t)
)
# access to read packages.conf
polaris_read_packages_conf(polaris_rbtimer_t)

# access to /cdrom0/ when *ova image is booted during
# first instance of vwlc on ucs server
polaris_removable_read(polaris_rbtimer_t)

# access to "/bootflash/installer/install_abort_timer_val"
polaris_disk_install_read(polaris_rbtimer_t)
policy_module(polarisbhytoolsd, 1.0);

polaris_process_domain_template(bhytoolsd)

polaris_btrace_data_manage(polaris_bhytoolsd_t)
polaris_chasfs_manage(polaris_bhytoolsd_t)
polaris_cpld_read(polaris_bhytoolsd_t)

vmtools_domtrans(polaris_bhytoolsd_t)

policy_module(polarismobilityd, 1.0);

gen_require(
    type polaris_mobilityd_t;
')

polaris_btrace_data_manage(polaris_mobilityd_t)
polaris_crft_data_manage(polaris_mobilityd_t)
polaris_chasfs_manage(polaris_mobilityd_t)
polaris_tdlresolve_read(polaris_mobilityd_t)
polaris_tdlldb_list_dirs(polaris_mobilityd_t)
polaris_cpld_read(polaris_mobilityd_t)
polaris_lua_read(polaris_mobilityd_t)
polaris_flashlib_read(polaris_mobilityd_t)

polaris_ripc_sman_ui_serv_connect(polaris_mobilityd_t)

polaris_db_tdldb_dir_use(polaris_mobilityd_t)

# allow to use setrlimit
allow polaris_mobilityd_t self:capability sys_resource;
allow polaris_mobilityd_t self:process setrlimit;
allow polaris_mobilityd_t self:capability dac_override;
allow polaris_mobilityd_t self:udp_socket { create_socket_perms recv_msg send_msg };

logging_send_syslog_msg(polaris_mobilityd_t)

polaris_lfts_dev_use(polaris_mobilityd_t)

polaris_cpld_read(polaris_mobilityd_t)

polaris_odm_clnt2svr_mqipc_create(polaris_mobilityd_t)

polaris_tmp_tdldbPersist_setup(polaris_mobilityd_t)

polaris_tdldbpersist_setup(polaris_mobilityd_t)

corenets_udp_bind_generic_node(polaris_mobilityd_t)
corenets_udp_bind_polaris_mobility_ctl_port(polaris_mobilityd_t)
corenets_udp_bind_polaris_mobility_data_port(polaris_mobilityd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismobilityd.te
No license file was found, but licenses were detected in source scan.

#
# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/bin/os/conf/wui-lighttpd-launch.sh -- gen_context(system_u:object_r:polaris_webui_lighttpd_exec_t,s0)

/usr/bin/os/conf/wui-app-launch.sh -- gen_context(system_u:object_r:polaris_webui_exec_t,s0)

/usr/bin/os/conf/wui-tipc-launch.sh -- gen_context(system_u:object_r:polaris_webui_exec_t,s0)

/webui(/.*)? gen_context(system_u:object_r:polaris_webui_file_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswebui.fc
No license file was found, but licenses were detected in source scan.

# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

/tmp/DmiAuth.socket -s gen_context(system_u:object_r:polaris_dmi_dmiamauthd_tmp_t,s0)
/tmp/netconf-yang-diag(/.*)? gen_context(system_u:object_r:polaris_dmi_dmiamauthd_tmp_diags_t,s0)
/usr/bin/os/conf/dmid_diag_logs.sh -- gen_context(system_u:object_r:polaris_dmid_diag_logs_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmidmiamauthd.fc
No license file was found, but licenses were detected in source scan.

# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisrrmmgr file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrrmmgr.fc
No license file was found, but licenses were detected in source scan.

# May 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris pttcd Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispttcd.if
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
policy_module(polarisptpdrp, 1.0);

gen_require(' 
    type polaris_ptpd_rp_t; 
')

polaris_chasfs_read(polaris_ptpd_rp_t)
polaris_epld_read(polaris_ptpd_rp_t)
polaris_tdlresolve_read(polaris_ptpd_rp_t)
polaris_lsmipi_dev_use(polaris_ptpd_rp_t)

# ptpd needs to have open,read,write access with /dev/ds31408
polaris_ds31408_dev_use(polaris_ptpd_rp_t)

# blzi device
polaris_blzi_dev_use(polaris_ptpd_rp_t)

allow polaris_ptpd_rp_t self:capability sys_nice;
allow polaris_ptpd_rp_t self:process setsched;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisptpdrp.te
No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky
# # Copyright (c) 2017-2020 by Cisco Systems, Inc.
# # All rights reserved
# #

/tmp/lsn.log -- gen_context(system_u:object_r:polaris_epc_ws_liaison_tmp_t,s0)
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisepcwsliaison.fc
No license file was found, but licenses were detected in source scan.

# July 2017, Victor Kamensky
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisgsdrp, 1.0);

gem_require(`
    type polaris_gsd_rp_t;
`
)

#allow to run readlink /dev/loop0 & /bin/date
corecmd_exec_bin(polaris_gsd_rp_t)

#run ldd, which in turn exec "ld.so --verify"
libs_exec_ld_so(polaris_gsd_rp_t)

# allow to run mount in its own domain
mount_domtrans(polaris_gsd_rp_t)
# awk -v what=^.BuildPath: $pkginfo_file ~ what { print $2 } /tmp/sw/boot/pkginfo
polaris_boot_tmp_read(polaris_gsd_rp_t)
polaris_btrace_data_manage(polaris_gsd_rp_t)
polaris_chasfs_manage(polaris_gsd_rp_t)
polaris_read_debug_conf(polaris_gsd_rp_t)
polaris_disk_crashinfo_getattr(polaris_gsd_rp_t)
polaris_guestshell_exec_files_exec(polaris_gsd_rp_t)
polaris_guestshell_files_read(polaris_gsd_rp_t)
polaris_ncl_tmp_read(polaris_gsd_rp_t)
polaris_proc_rmonbifo_read(polaris_gsd_rp_t)
polaris_cpld_read(polaris_gsd_rp_t)
polaris_bootflash_read(polaris_gsd_rp_t)
polaris_harddisk_read(polaris_gsd_rp_t)

# read /proc/cmdline
kernel_read_system_state(polaris_gsd_rp_t)

auth_use_nsswitch(polaris_gsd_rp_t)
polaris_rmonbifo_tmp_read(polaris_gsd_rp_t)

allow polaris_gsd_rp_t self:capability { dac_override sys_resource }
allow polaris_gsd_rp_t self:process setpgid;

type polaris_gsd_rp_tmp_t;
files_tmp_file(polaris_gsd_rp_tmp_t)
manage_dirs_pattern(polaris_gsd_rp_tmp_t, tmp_t, polaris_gsd_rp_tmp_t)
manage_files_pattern(polaris_gsd_rp_tmp_t, tmp_t, polaris_gsd_rp_tmp_t)
manage_fifo_files_pattern(polaris_gsd_rp_t, polaris_gsd_rp_tmp_t, polaris_gsd_rp_tmp_t)

# work with /tmp/guestshell_stk directory
files_tmp_filetrans(polaris_gsd_rp_t, polaris_gsd_rp_tmp_t, dir, "guestshell_stk")

gen_require(
    type rsync_t;
')
rsync_entry_domtrans(polaris_gsd_rp_t, rsync_t)
allow rsync_t polaris_gsd_rp_t:process sigchld;

# read /opt/cisco/caf directory
polaris_caf_files_read(polaris_gsd_rp_t)

gen_require(
    type polaris_caf_api_port_t;
    type polaris_caf_exec_t;
')
allow polaris_gsd_rp_t polaris_caf_api_port_t:tcp_socket name_connect;
allow polaris_gsd_rp_t polaris_caf_exec_t:file { getattr open read };
allow polaris_gsd_rp_t tmp_t:dir { create rmdir };

polaris_flashlib_read(polaris_gsd_rp_t)
polaris_flashlib_write(polaris_gsd_rp_t)

# watch over /tmp/udev/etc/udev
polaris_udev_tmp_read(polaris_gsd_rp_t)
polaris_udev_tmp_watch(polaris_gsd_rp_t)
# watch over /bootflash/gs_script
polaris_persistent_watch(polaris_gsd_rp_t)
# allow iox_ha_utils.sh to read /etc/docker/daemon.json.
gen_require(
    type container_config_t;
')
read_files_pattern(polaris_gsd_rp_t, container_config_t, container_config_t)

# allow guestshell_ha.sh to log messages
logging_send_syslog_msg(polaris_gsd_rp_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/o/selinux-tar/selinux/polarisgsdrp.te
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris Rmonbifo Policy Rules.</summary>

# Polaris Rmonbifo Driver policy

### <summary>Polaris Rmonbifo Policy Rules.</summary>

##### <summary>Read /proc/rmonbifo files.</summary>

##### <summary>Domain allowed access.</summary>

interface('polaris_proc_rmonbifo_read',
    gen_require(
        type polaris_proc_rmonbifo_t;
    
    read_files_pattern($1, polaris_proc_rmonbifo_t, polaris_proc_rmonbifo_t)
    list_dirs_pattern($1, polaris_proc_rmonbifo_t, polaris_proc_rmonbifo_t)
    ')
)

### <summary>Getattr of /proc/rmonbifo files.</summary>

### <summary>Domain allowed access.</summary>

interface('polaris_proc_rmonbifo_getattr',
    gen_require(
        type polaris_proc_rmonbifo_t;
    '
)
getattr_files_pattern($1, polaris_proc_rmonbifo_t, polaris_proc_rmonbifo_t)
')

# Read /tmp/sw/boot/rmbonbifo files.
# <summary>
# Domain allowed access.
# </summary>
#
# interface('polaris_rmonbifo_tmp_read',
# gen_require(''
# type polaris_rmonbifo_tmp_t;
# type polaris_boot_tmp_t;
#
# read_files_pattern($1, polaris_rmonbifo_tmp_t, polaris_rmonbifo_tmp_t)
# # /tmp/sw/boot/rmbonbifo dir is inside of polaris_boot_tmp_t dir
# search_dirs_pattern($1, polaris_boot_tmp_t, polaris_rmonbifo_tmp_t)
#
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrmonbifo.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/ncd.sh -- gen_context(system_u:object_r:polaris_ncd_exec_t,s0)
/etc/conf/unifiedfs/mount_data gen_context(system_u:object_r:polaris_ufs_helper_exec_t,s0)

/usr/binos/conf/iosd_console_attach.sh -- gen_context(system_u:object_r:polaris_console_attach_exec_t,s0)
/usr/binos/conf/unifiedfs/unifiedfs_helper.sh -- gen_context(system_u:object_r:polaris_ufs_helper_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisncd.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
## <summary>Polaris iosd Policy Rules</summary>

### <summary>Make the specified domain able to work with /tmp/restconf</summary>

```c
interface('polaris_restconf_tmp_use',
    gen_require(
        type polaris_restconf_tmp_t;
    )

    manage_files_pattern($1, polaris_restconf_tmp_t, polaris_restconf_tmp_t)
    manage_dirs_pattern($1, polaris_restconf_tmp_t, polaris_restconf_tmp_t)
)
```

### <summary>Create domain for IOSD Polaris processes. Note depending on policy build setting it could be confined or not confined</summary>

```c
interface('polaris_iosd_domain',
    polaris_process_domain_confined($1, $2)
    polaris_iosd_maybe_unconfined($1)
```
## <summary>
## Make the specified domain able to work with iosd2iox files
## </summary>
## <param name="type">
## Domain allowed access.
## </param>
#
interface('polaris_iosd2iox_tmp_manage',
    gen_require('type polaris_iosd2iox_tmp_t;
    ')

    manage_files_pattern($1, polaris_iosd2iox_tmp_t, polaris_iosd2iox_tmp_t)
')

## <summary>
## Make the specified domain able to read iosd2iox files
## </summary>
## <param name="type">
## Domain allowed access.
## </param>
#
interface('polaris_iosd2iox_tmp_read',
    gen_require('type polaris_iosd2iox_tmp_t;
    ')

    read_files_pattern($1,polaris_iosd2iox_tmp_t,polaris_iosd2iox_tmp_t)
')

## Send messages to iosd unix datagram sockets.
##<param name="domain">
##Domain allowed access.
##</param>
#
interface(`polaris_iosd_dgram_send`,
  gen_require(
    type polaris_iosd_t;
  )
)

allow $1 polaris_iosd_t:unix_dgram_socket sendto;
')

########################################
## <summary>
##      Make the specified domain to read /tmp/rp/.iosp_dmiauthd
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_dmiauthd_token_read`,
  gen_require(
    type polaris_dmiauthd_token_t;
  )
)

read_files_pattern($1, polaris_dmiauthd_token_t, polaris_dmiauthd_token_t)
')

########################################
## <summary>
##      Make the specified domain to read /tmp/rp/.iosp_gnmib
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_gnmib_token_read`,
  gen_require(
    type polaris_gnmib_token_t;
  )
)

manage_files_pattern($1, polaris_gnmib_token_t, polaris_gnmib_token_t)
')

########################################
## <summary>
##      Make the specified domain able to work with files
##      with polaris_iosd_tmp_files_t
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_iosd_tmp_file_use',
    gen_require('        
type polaris_iosd_tmp_files_t;
    ')

manage_files_pattern($1, polaris_iosd_tmp_files_t, polaris_iosd_tmp_files_t) allow $1 polaris_iosd_tmp_files_t:sock_file { manage_sock_file_perms};
')

#######################################
## <summary>
## Manage /bootflash/geodb/ files
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
## <rolebase/>
#
interface('polaris_geodb_files_manage',
    gen_require('        
type polaris_geodb_files_t;
    ')

manage_files_pattern($1, polaris_geodb_files_t, polaris_geodb_files_t) manage_dirs_pattern($1, polaris_geodb_files_t, polaris_geodb_files_t) manage_lnk_files_pattern($1, polaris_geodb_files_t, polaris_geodb_files_t)
')

########################################
## Allow the specified domain to read /boot/vcpu_template.txt or /csl_p_0/vcpu_template.txt
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_iosd_vcpu_read',
    gen_require(
        type polaris_iosd_vcpu_t;
        type polaris_disk_varied_t;
        type polaris_disk_csl_p_t;
    )
)

read_files_pattern($1, [ polaris_disk_varied_t polaris_disk_csl_p_t ], polaris_iosd_vcpu_t)
')

# <summary>
#      Allow the specified domain to read /tmp/usb-disable
# </summary>
# <param name="type">
#      Domain allowed access.
# </param>
#
interface('polaris_iosd_usb_disable_tmp_manage',
    gen_require(
        type polaris_iosd_usb_disable_tmp_t;
    )
)

manage_files_pattern($1, polaris_iosd_usb_disable_tmp_t, polaris_iosd_usb_disable_tmp_t)
files_tmp_filetrans($1, polaris_iosd_usb_disable_tmp_t, file, "usb-disable")
')

# <summary>
#      Allow the specified domain to access /bootflash/EFI
# </summary>
# <param name="type">
#      Domain allowed access.
# </param>
#
interface('polaris_efi_files_list_dirs',
    gen_require(
        type polaris_efi_files_t;
    )
)

list_dirs_pattern($1, polaris_efi_files_t, polaris_efi_files_t)
')

Found in path(s):
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
#
# polarissmd file contexts place holder

# dc_profile_dir
/mnt/sd3/user/dc_profile_dir(/.*)? gen_context(system_u:object_r:polaris_smd_disk_t,s0)
/mnt/flash1/user/dc_profile_dir(/.*)? gen_context(system_u:object_r:polaris_smd_disk_t,s0)
/mnt/flash1/user/dc_profile_dir(/.*)? gen_context(system_u:object_r:polaris_smd_disk_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissmd.fc
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
#
# polarismqipc file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismqipc.fc
No license file was found, but licenses were detected in source scan.

# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris iomd Policy Rules.</summary>

### <summary>Polaris iomd Policy Rules. </summary>

## Work (read, write, ioctl) with /dev/ngio[0-9+] devices
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>

```
interface('polaris_ngio_dev_use',
    gen_require(
        type device_t;
        type polaris_ngio_device_t;
    ')
    write_chr_files_pattern($1, device_t, polaris_ngio_device_t)
    read_chr_files_pattern($1, device_t, polaris_ngio_device_t)
')
```

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisiomd.if

No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisrepm, 1.0);

```
gen_require(
    type polaris_repm_t;
')
```

```
polaris_btrace_data_manage(polaris_repm_t)
polaris_crft_data_manage(polaris_repm_t)
polaris_chasfs_manager(polaris_repm_t)
polaris_tdlresolve_read(polaris_repm_t)
polaris_tdlldb_list_dirs(polaris_repm_t)
polaris_cpld_read(polaris_repm_t)
polaris_lua_read(polaris_repm_t)
polaris_flashlib_read(polaris_repm_t)
polaris_ripc_sman_ui_serv_connect(polaris_repm_t)
polaris_db_tdlldb_dir_use(polaris_repm_t)
```

# allow to read /proc/meminfo

```
kernell_read_system_state(polaris_repm_t)
```

allow polaris_repm_t self:capability { sys_resource dac_override };
allow polaris_repm_t self:process setrlimit;

# temporary files created for repm in /tmp/replication
type polaris_repm_tmp_t:
files_tmp_file(polaris_repm_tmp_t)
polaris_systemd_tmpfiles_tmp_filetrans(polaris_repm_tmp_t, dir, "replication")
manage_files_pattern(polaris_repm_t, polaris_repm_tmp_t, polaris_repm_tmp_t)

polaris_dyncfg_tmp_read(polaris_repm_t)
polaris_tlddbpersist_setup(polaris_repm_t)
polaris_tmp_tlddb_persist_setup(polaris_repm_t)

# send syslog
logging_send_syslog_msg(polaris_repm_t)

# mq-local_rp_1_0
type polaris_repm_local_rp_mqipc_t;
polaris_mqipc_type(polaris_repm_local_rp_mqipc_t)
polaris_mqipc_create_name(polaris_repm_t, polaris_repm_local_rp_mqipc_t, local_rp_1_0)
polaris_mqipc_create_name(polaris_repm_t, polaris_repm_local_rp_mqipc_t, local_rp_0_0)

# repm peer mqipc queues under /dev/shm/repm_peer_mq folder
type polaris_repm_peer_mqipc_t;
polaris_mqipc_type(polaris_repm_peer_mqipc_t)
polaris_mqipc_create_name_dir(polaris_repm_t, polaris_repm_peer_mqipc_t, repm_peer_mq)

# repm invokes installer_api_* api's which need access to /bootflash/.installer/install_issu_state
polaris_install_disk_read(polaris_repm_t)

ifdef(`petra_platform',
# allow access to polaris_cm_rp sem for chasfs
polaris_cm_rp_sem_use(polaris_repm_t)
# allow access to /flash12/moncfg/cfg.dat for config
polaris_swipedrive_file_manage(polaris_repm_t)
')

# execute /bin/tar
corecmd_exec_bin(polaris_repm_t)
# tar reads /etc/passwd
auth_use_nsswitch(polaris_repm_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrepm.te
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris NGWC Platform Policy Rules.</summary>

```
### <summary>
### Manage ngwc shared memory /dev/shm/ngwc_shm.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>

interface(`polaris_ngwc_shm_manage',`
gen_require(`
    type tmpfs_t;
    type polaris_ngwc_shm_t;
')
fs_getattr_tmpfs($1)
manage_files_pattern($1, tmpfs_t, polaris_ngwc_shm_t)
allow $1 polaris_ngwc_shm_t:file map;
filetrans_pattern($1, tmpfs_t, polaris_ngwc_shm_t, file, "ngwc_shm")
')
```

```
### <summary>
### Manage ngwc shared memory /dev/shm/ngwc_scc_shm.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>

interface(`polaris_ngwc_scc_shm_manage',`
gen_require(`
    type tmpfs_t;
    type polaris_ngwc_scc_shm_t;
')
fs_getattr_tmpfs($1)
manage_files_pattern($1, tmpfs_t, polaris_ngwc_scc_shm_t)
allow $1 polaris_ngwc_scc_shm_t:file map;
filetrans_pattern($1, tmpfs_t, polaris_ngwc_scc_shm_t, file, "ngwc_scc_shm")
')
```
manage_files_pattern($1, tmpfs_t, polaris_ngwc_scc_shm_t)
allow $1 polaris_ngwc_scc_shm_t:file map;
filetrans_pattern($1, tmpfs_t, polaris_ngwc_scc_shm_t, file, "ngwc_scc_shm")
')

########################################################################
## <summary>
##      Manage ngwc shared memory /dev/shm/iomd_to_fed_ptp_offload.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_ngwc_itfpo_manage',
    gen_require(
        type tmpfs_t;
        type polaris_ngwc_itfpo_t;
    )
)
fs_getattr_tmpfs($1)
manage_files_pattern($1, tmpfs_t, polaris_ngwc_itfpo_t)
allow $1 polaris_ngwc_itfpo_t:file map;
filetrans_pattern($1, tmpfs_t, polaris_ngwc_itfpo_t, file, "iomd_to_fed_ptp_offload")
')

########################################################################
## <summary>
##      Manage ngwc sdm shared memory /dev/shm/sdm.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_sdm_shm_manage',
    gen_require(
        type tmpfs_t;
        type polaris_sdm_shm_t;
    )
)
fs_getattr_tmpfs($1)
manage_files_pattern($1, tmpfs_t, polaris_sdm_shm_t)
filetrans_pattern($1, tmpfs_t, polaris_sdm_shm_t, file, "sdm")
allow $1 polaris_sdm_shm_t:file map;
# MMAP Driver for mapping ASIC Memory space

## <summary>
## Work (read, write, ioctl) with /dev/chdrvmmap
## </summary>

## <param name="domain">
## Domain allowed access.
## </param>

```c
interface('polaris_chdrvmmap_dev_use',
gen_require(
    type device_t;
    type polaris_chdrvmmap_device_t;
')
read_chr_files_pattern($1, device_t, polaris_chdrvmmap_device_t)
write_chr_files_pattern($1, device_t, polaris_chdrvmmap_device_t)
allow $1 polaris_chdrvmmap_device_t:chr_file map;
')
```

## <summary>
## Work (read, write, ioctl) with /dev/gettysburg_dev1
## </summary>

## <param name="domain">
## Domain allowed access.
## </param>

```c
interface('polaris_gettysburg_fpga_dev_use',
gen_require(
    type device_t;
    type polaris_gettysburg_fpga_device_t;
')
write_chr_files_pattern($1, device_t, polaris_gettysburg_fpga_device_t)
read_chr_files_pattern($1, device_t, polaris_gettysburg_fpga_device_t)
mmap_chr_files_pattern($1, device_t, polaris_gettysburg_fpga_device_t)
')
```

## <summary>
## Work (read, write, ioctl) with /dev/cisco/dplriomem
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#

# interface('polaris_dplr_iomem_mmapdrv_dev_use',
    gen_require('   
    type device_t;
    type polaris_dplr_iomem_mmapdrv_device_t;
  ')
write_chr_files_pattern($1, device_t, polaris_dplr_iomem_mmapdrv_device_t)
read_chr_files_pattern($1, device_t, polaris_dplr_iomem_mmapdrv_device_t)
allow $1 polaris_dplr_iomem_mmapdrv_device_t:chr_file map;
')

################################################################
## <summary>
##      Allow access to semaphore of quake flashlib. Pure hack
## semaphore got created by dyncfg accidently, need to change to
## POSIX semaphore code ASAP.
## LOOK AT ME
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#

# interface('polaris_quake_flashlib_sem_use',
    gen_require('   
    type polaris_dyncfg_t;
  ')
allow $1 polaris_dyncfg_t:sem rw_sem_perms;
')

################################################################
## <summary>
##      Manage quake i2c semaphores /dev/shm/sem.i2c_sem00N
## and work with corresponding i2c devices (/dev/i2c-XXX)
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#

# interface('polaris_quake_i2c_manage',

gen_require(`
    type tmpfs_t;
    type polaris_quake_i2c_t;
`)
manage_files_pattern($1, tmpfs_t, polaris_quake_i2c_t)
polaris_i2c_use($1)
`

########################################
## <summary>
##   Allow caller to read or write the exiting_bays file
## </summary>
## <param name="domain">
##   Domain allowed access.
## </param>
interface(`polaris_rw_exiting_bays',`
    gen_require(`
        type polaris_proc_exiting_bays_t;
        type proc_t;
    `)
    rw_files_pattern($1, polaris_proc_exiting_bays_t, polaris_proc_exiting_bays_t)
    # FIXME/TODO:  
    # The kernel does not reliably create /proc/exiting_bays on all platforms
    # The following lines should be removed when CSCvv27097 is addressed
    allow $1 polaris_proc_exiting_bays_t:file create;
    allow $1 proc_t:file create;
    allow $1 proc_t:dir { add_name write };
`)

########################################
## <summary>
##   Allow caller to create open write /tmp/fpga_upgrade
## </summary>
## <param name="domain">
##   Domain allowed access.
## </param>
# interface(`polaris_fpga_upgrade_tmp_use',`
    gen_require(`
        type polaris_fpga_upgrade_tmp_t;
    `)
    allow $1 polaris_fpga_upgrade_tmp_t:file { create open write };
`)
## <summary>
## Execute a domain transition to run cat9k_ssdUnmount.sh
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface('polaris_ssd_unmount_domtrans',\n  gen_require(\n      type polaris_ssd_unmount_t, polaris_ssd_unmount_exec_t;\n  )\n  domtrans_pattern($1, polaris_ssd_unmount_exec_t, polaris_ssd_unmount_t)\n )

## <summary>
## Read lnk_file /ucode0, polaris_disk_ucode0_t.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface('polaris_disk_ucode0_read_lnk',\n  gen_require(\n      type polaris_disk_ucode0_t;\n  )\n  read_lnk_files_pattern($1, polaris_disk_ucode0_t, polaris_disk_ucode0_t)\n )

## Work (read, write, ioctl) with /dev/cisco/fpgaIomem
#
# interface('polaris_fpga_iomem_mmapfpga_dev_use',\n  gen_require(\n      type device_t;\n  )
type polaris_fpga_iomem_mmapfpga_device_t;

')
allow $1 polaris_fpga_iomem_mmapfpga_device_t:chr_file map;
write_chr_files_pattern($1, device_t, polaris_fpga_iomem_mmapfpga_device_t)
read_chr_files_pattern($1, device_t, polaris_fpga_iomem_mmapfpga_device_t)

')

########################################
## <summary>
## Read Write access to /bootflash/nplusm-power
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_nplusm_power_manage',`
gen_require(`
type polaris_nplusm_power_file_t;
type polaris_disk_bootflash_t;
')
filetrans_pattern($1, polaris_disk_bootflash_t, polaris_nplusm_power_file_t, file, "nplusm-power")
allow $1 polaris_nplusm_power_file_t:file { write create read open getattr unlink };
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwc.if
No license file was found, but licenses were detected in source scan.
#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/boothelper_evt.sh -- gen_context(system_u:object_r:polaris_boothelper_evt_exec_t,s0)
/tmp/udev(/.*)?                      gen_context(system_u:object_r:polaris_udev_tmp_files_t,s0)
/tmp/rommon_upgrade_ngwc(/.*)?       gen_context(system_u:object_r:polaris_boothelper_tmp_files_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisboothelper.fc
No license file was found, but licenses were detected in source scan.
#
# December 2018, Victor Kamensky
# Copyright (c) 2018-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris ezman_cc Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisezmancc.if
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define('polaris_lipc_service_server', '')
define('polaris_lipc_service_client', '')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_lipc_fc.m4
No license file was found, but licenses were detected in source scan.

# # July 2019, Victor Kamensky
#
# # Copyright (c) 2019 by Cisco Systems, Inc.
# # All rights reserved
#

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisgrmgr.fc
No license file was found, but licenses were detected in source scan.

# # July 2017, Victor Kamensky
#
# # Copyright (c) 2017-2020 by Cisco Systems, Inc.
# # All rights reserved
#

/usr/bin/os/conf/install_issu_monitor.sh -- gen_context(system_u:object_r:polaris_issu_monitor_exec_t:s0)
/tmp/rp/issu_mon_dir -d gen_context(system_u:object_r:polaris_issu_monitor_tmp_t:s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisissumonitor.fc
No license file was found, but licenses were detected in source scan.

# March 2019, Shikhar Dogra
#
# Copyright (c) 2019 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris fman_cc Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfmancc.if

No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris smand Policy Rules.</summary>

########################################################################
###<summary>
### Allow domain to be started by smand with
### transition into specific service domain.
### </summary>
###<param name="domain">
###Type to be used to run utility.
###</param>
###<param name="entry_point">
###Type of the program to be used as an entry point to this domain.
###</param>
interface(`polaris_smand_domain',`
    gen_require(`
        type polaris_smand_t;
    ')
    domtrans_pattern(polaris_smand_t, $2, $1)
')

########################################################################
## <summary>
## Write into fifo file created by smand, typical case when
## smand starts script under popen.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolecap/>
#
interface(`polaris_smand_use_fifo`,
gen_require(`
type polaris_smand_t;
`)
write_fifo_files_pattern($1, polaris_smand_t, polaris_smand_t)
`)

########################################
## <summary>
## Read access to CRDU fifo file created by smand
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolecap/>
#
interface(`polaris_smand_crdu_pipe_read`,
gen_require(`
type polaris_crdu_pipe_tmp_t;
`)
read_fifo_files_pattern($1, polaris_crdu_pipe_tmp_t, polaris_crdu_pipe_tmp_t)
`)

########################################
## <summary>
## Manage CRDU fifo file created by smand
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolecap/>
interface('polaris_smand_crdu_pipe_manage',
   gen_require(
       type polaris_crdu_pipe_tmp_t;
    )
    manage_fifo_files_pattern($1, polaris_crdu_pipe_tmp_t, polaris_crdu_pipe_tmp_t)
 })

#######################################
## <summary>
##      Write to polaris_sman_bshell_serv_lipc_t
## </summary>
## <param name="domain">
##   Domain allowed to connect and write into this lipc file.
## </param>
#
interface('polaris_sman_bshell_serv_lipc_write',
   gen_require(
       type polaris_sman_bshell_serv_lipc_t;
       type polaris_smand_t;
    )
   polaris_lipc_write($1, polaris_sman_bshell_serv_lipc_t, polaris_smand_t)
 })

#######################################
## <summary>
##   Manage /tmp/show_ports_tmp
## </summary>
## <param name="domain">
##   Domain allowed to manage tmp files.
## </param>
## <rolecap/>
interface('polaris_trans_ports_tmp_manage',
   gen_require(
       type polaris_trans_stats_tmp_t;
    )
 manage_files_pattern($1, polaris_trans_ports_tmp_t, polaris_trans_ports_tmp_t)
 })

#######################################
## <summary>
##   create /tmp/trans_tmp and /tmp/trans_tmp.1 to store lsof output
## </summary>
## <param name="domain">
## <summary>
## Domain allowed to manage tmp files.
## </summary>
## </param>
## <rolecap/>
interface('polaris_trans_stats_tmp_manage',
    gen_require(''
        type polaris_trans_stats_tmp_t;
    ')
    manage_files_pattern($1, polaris_trans_stats_tmp_t, polaris_trans_stats_tmp_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissmand.if
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/cpp/bin/cpp_cdm_svr -- gen_context(system_u:object_r:polaris_cpp_cdm_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppcdm.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris Flashlib Policy Rules.</summary>

########################################################################
# Flashlib policy (infra/flashlib)
########################################################################

########################################################################
## <summary>Read Polaris /tmp/.flashlock file
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface("polaris_flashlib_lock",
  gen_require(
    type tmp_t;
    type polaris_flashlib_lock_t;
  )
)

manage_files_pattern($1, tmp_t, polaris_flashlib_lock_t)
allow $1 self:capability dac_override;

ifdef("quake_platform",
  polaris_quake_flashlib_sem_use($1)
)
# access of .flashlock on ultra
ifdef("vxe_family",
  allow $1 self:capability dac_override;
)
#

########################################
## <summary>
## Write Polaris /tmp/flashdev.log file
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface("polaris_flashlib_log",
  gen_require(
    type tmp_t;
    type polaris_flashlib_log_t;
  )
)

manage_files_pattern($1, tmp_t, polaris_flashlib_log_t)
#

########################################
## <summary>
## Read partition disk device that contains rommon variables.
## C8KV reads object store and reads grub files in BIOS and EFI partitions.
## </summary>
## <param name="domain">
## <summary>
###Domain allowed access.
###</summary>
### </param>
#
interface('polaris_flashlib_read',`
    gen_require(`
        type device_t;
        type polaris_flashlib_device_t;
    `)
polaris_flashlib_lock($1)polaris_flashlib_log($1)read_blk_files_pattern($1, device_t, polaris_flashlib_device_t)read_chr_files_pattern($1, device_t, polaris_flashlib_device_t)ifdef(`vxe_family',`
        polaris_vxeinstall_info_read($1)polaris_grub_info_read($1)`
    `)ifdef(`vwlc_platform',`
        polaris_vwlcinstall_info_read($1)polaris_vwlc_grub_info_read($1)`
    `)
#else(
    polaris_disk_objstore_read($1)
    polaris_flash_shm_manage($1)
`)

###################################################################
### <summary>
###Write partition disk device that contains rommon variables.
### </summary>
### <param name="domain">
###<summary>
###Domain allowed access.
### </summary>
### </param>
#
interface('polaris_flashlib_write',`
    gen_require(`
        type device_t;
        type polaris_flashlib_device_t;
    `)
polaris.flashlib.lock($1)write_blk_files_pattern($1, device_t, polaris.flashlib.device_t)
polaris_flash_shm_manage($1)
')

#########################################################################
### <summary>
### Manage ngwc shared memory /dev/shm/flash_shm.
### </summary>
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
#
interface('polaris_flash_shm_manage',
    gen_require(''
        type tmpfs_t;
        type polaris_flash_shm_t;
    ')
    fs_getattr_tmpfs($1)
    manage_files_pattern($1, tmpfs_t, polaris_flash_shm_t)
    allow $1 polaris_flash_shm_t:file map;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisflashlib.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris LUA Policy Rules.</summary>

#########################################################################
# Lua policy
#########################################################################

#########################################################################
### <summary>
###Read Polaris lua files (/lua)
### </summary>
### <param name="domain">
###<summary>
###Domain allowed access.
###</summary>
## </param>
#
interface('polaris_lua_read',
gen_require('type polaris_lua_file_t;
')

allow $1 polaris_lua_file_t:file read_file_perms;
allow $1 polaris_lua_file_t:dir { read_file_perms search_dir_perms };
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislua.if
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris tamd_rp Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristamdrp.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris polarisiptbl Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisiptbl.if
No license file was found, but licenses were detected in source scan.

#
# April 2018, Victor Kamensky
#
# Copyright (c) 2018-2019 by Cisco Systems, Inc.
# All rights reserved
#
# autopolarisplatformipcbase file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/autopolarisplatformipcbase.fc
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisdmiportsfetch, 1.0);

gen_require(''
    type polaris_dmi_ports_fetch_t;
')
polaris_chasfs_manage(polaris_dmi_ports_fetch_t)
polaris_tdlresolve_read(polaris_dmi_ports_fetch_t)
polaris_cpld_read(polaris_dmi_ports_fetch_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmiportsfetch.te
No license file was found, but licenses were detected in source scan.

#
# July 2018, Victor Kamensky
#
# Copyright (c) 2018-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisngwcfeddebug, 1.0);

gen_require(''
    type polaris_ngwc_fed_debug_mgr_t;
')
polaris_bootflash_manage(polaris_ngwc_fed_debug_mgr_t)
polaris_btrace_data_manage(polaris_ngwc_fed_debug_mgr_t)
polaris_cpld_read(polaris_ngwc_fed_debug_mgr_t)
polaris_flashlib_read(polaris_ngwc_fed_debug_mgr_t)
polaris_chasfs_read(polaris_ngwc_fed_debug_mgr_t)
polaris_tdlresolve_read(polaris_ngwc_fed_debug_mgr_t)
polaris_disk_bootflash_read_lnk(polaris_ngwc_fed_debug_mgr_t)
polaris_dmammap_dev_use(polaris_ngwc_fed_debug_mgr_t)
polaris_chdrvmmmap_dev_use(polaris_ngwc_fed_debug_mgr_t)
polaris_dplr_iomem_mmapdrv_dev_use(polaris_ngwc_fed_debug_mgr_t)

# opens /proc/pid/net/dev
kernel_read_network_state(polaris_ngwc_fed_debug_mgr_t)

# calls tcpdump, let it run in its own domain
netutils_domtrans(polaris_ngwc_fed_debug_mgr_t)

# calls system function
corecmd_exec_shell(polaris_ngwc_fed_debug_mgr_t)

# calls lspci and other utilities
corecmd_exec_bin(polaris_ngwc_fed_debug_mgr_t)

auth_use_nsswitch(polaris_ngwc_fed_debug_mgr_t)

# lspci needs sysfs access
dev_list_sysfs(polaris_ngwc_fed_debug_mgr_t)
dev_read_sysfs(polaris_ngwc_fed_debug_mgr_t)

# dope.py /tmp/idope_svr,/tmp/shfwd_svr socket files
type polaris_fed_debug_sock_t;
files_tmp_file(polaris_fed_debug_sock_t)
files_tmp_filetrans(polaris_ngwc_fed_debug_mgr_t, polaris_fed_debug_sock_t, sock_file, "idope_svr")
files_tmp_filetrans(polaris_ngwc_fed_debug_mgr_t, polaris_fed_debug_sock_t, sock_file, "shfwd_svr")

gen_require(''
    type tmp_t;
')
manage_sock_files_pattern(polaris_ngwc_fed_debug_mgr_t, tmp_t, polaris_fed_debug_sock_t)

# allow show-forward to use following temp files in /tmp dir
type polaris_fed_debug_tmp_t;
files_tmp_file(polaris_fed_debug_tmp_t)
files_tmp_filetrans(polaris_ngwc_fed_debug_mgr_t, polaris_fed_debug_tmp_t, file, "pktgen.txt")
files_tmp_filetrans(polaris_ngwc_fed_debug_mgr_t, polaris_fed_debug_tmp_t, file, "DopeElam.sh")
files_tmp_filetrans(polaris_ngwc_fed_debug_mgr_t, polaris_fed_debug_tmp_t, file, "MemDumpElam.sh")
gen_require(''
    type tmp_t;
')
manage_files_pattern(polaris_ngwc_fed_debug_mgr_t, { tmp_t polaris_fed_debug_tmp_t},
polaris_fed_debug_tmp_t)

# talk to fed over unix sockets
polaris_fed_sock_write(polaris_ngwc_fed_debug_mgr_t)
# /dcmlog.txt
type polaris_fed_debug_dcmlog_t;
files_type(polaris_fed_debug_dcmlog_t)
gen_require(
    type root_t;
)
filetrans_pattern(polaris_ngwc_fed_debug_mgr_t, root_t, polaris_fed_debug_dcmlog_t, file, "dcmlog.txt")
manage_files_pattern(polaris_ngwc_fed_debug_mgr_t, root_t, polaris_fed_debug_dcmlog_t)

# dope.py listens on port 12255
corenet_tcp_bind_generic_node(polaris_ngwc_fed_debug_mgr_t)
allow polaris_ngwc_fed_debug_mgr_t self:tcp_socket { getattr setopt ioctl getopt bind create listen accept connect read write };
corenet_tcp_bind_polaris_fed_debug_trace_rpc_port(polaris_ngwc_fed_debug_mgr_t)
corenet_tcp_connect_polaris_fed_debug_trace_rpc_port(polaris_ngwc_fed_debug_mgr_t)

# dope.py listens on port 5389 for shfwd commands
corenet_tcp_bind_polaris_fed_debug_shfwd_command_port(polaris_ngwc_fed_debug_mgr_t)

# LOOK AT ME: /dev/mem access restriction remove after fix for CSCvm07702 is committed.
ifdef(`nyquist_platform',`
    polaris_dev_mem_use(polaris_ngwc_fed_debug_mgr_t)
')
ifdef(`starfleet_platform',`
    polaris_dev_mem_use(polaris_ngwc_fed_debug_mgr_t)
')
ifdef(`quake_platform',`
    polaris_dev_mem_use(polaris_ngwc_fed_debug_mgr_t)
')

# /tmp/asic_config.pickle file access
type polaris_fed_debug_asic_config_t;
files_tmp_file(polaris_fed_debug_asic_config_t);
files_tmp_filetrans(polaris_ngwc_fed_debug_mgr_t, polaris_fed_debug_asic_config_t, file, "asic_config.pickle")
gen_require(
    type tmp_t;
)
manage_files_pattern(polaris_ngwc_fed_debug_mgr_t, tmp_t, polaris_fed_debug_asic_config_t)

# dope.py invokes scapy.py for DP trace which needs to create socket to seek
# interface info via ioctl ifreq
allow polaris_ngwc_fed_debug_mgr_t self:udp_socket { create ioctl };
# mapped files.
type polaris_fed_debug ffi_t;
files_tmp_file(polaris_fed_debug ffi_t);
files_tmp_filetrans(polaris_ngwc fed_debug mgr_t, polaris_fed_debug ffi_t, dir, "rdope ffi")
gen_require(
    type tmp_t;
)
manage_dirs_pattern(polaris_ngwc fed_debug mgr_t, tmp_t, polaris_fed_debug ffi_t)
manage_files_pattern(polaris_ngwc fed_debug mgr_t, polaris_fed_debug ffi_t, polaris_fed_debug ffi_t)
allow polaris_ngwc fed_debug mgr_t polaris_fed_debug ffi_t:file { execute map }

# allow to read /proc/mtd called from mcp_getmonvar
kernel_read_system_state(polaris_ngwc fed_debug mgr_t)
polaris_remap_mem_dev_use(polaris_ngwc fed_debug mgr_t)

allow polaris_ngwc fed_debug mgr_t self:capability sys_resource;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwcfeddebug.te
No license file was found, but licenses were detected in source scan.

dnldnlApril 2018, Victor Kamensky
dnl
ddl All Rights reserved
dnl
dnl Process Names Map
define(`process_map', `defn(format(``process_map[%s]', `$1'))')
define(`process_map_set', `define(format(``process_map[%s]', `$1'), `$2')`)

dnl Process Names and Labels
define(`process_short_name', `patsubst($1, `^BPROC_', `')
define(`process_default_stem', `translit(process_short_name($1), `A-Z', `a-z')')
define(`process_stem', `ifelse(process_map(process_short_name($1)), `', process_default_stem($1), process_map(process_short_name($1))))
define(`process_label', `format(`polaris_%s_t', process_stem($1))')
define(`process_exec_label', `format(`polaris_%s_exec_t', process_stem($1))')

dnl Process Type Map: track that type declations unique
define(`process_type_map', `defn(format(``process_type_map[%s]', `$1'))')
define(`process_type_map_set', `define(format(``process_type_map[%s]', `$1'), `$2')`)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_process.m4
No license file was found, but licenses were detected in source scan.
process_map_set(AUTO_UPGRADE_CLIENT_RP, autoupgrade)
process_map_set(BSM_RP, bsm)
process_map_set(BTM_CC, btman)
process_map_set(BTM_FP, btman)
process_map_set(BTM_RP, btman)
process_map_set(BTM_BP, btman)
process_map_set(CCD_RP, caf)
process_map_set(DMI_CONFDF, confd)
process_map_set(DMI_PTTCD, pttcd)
process_map_set(SDWAN_CONFDF, confd)
process_map_set(EMD_CC, emd)
process_map_set(EMD_FP, emd)
process_map_set(EMD_RP, emd)
process_map_set(FCD_RP, flashcheck)
process_map_set(FM_FP, fman_fp)
process_map_set(FM_CC, fman_cc)
process_map_set(FM_RP, fman_rp)
process_map_set(HM_CC, hm)
process_map_set(HM_FP, hm)
process_map_set(HM_RP, hm)
process_map_set(IOMD_CC, iomd)
process_map_set(IOSD_CC, iosd)
process_map_set(IOSD_RP, iosd)
process_map_set(IOSD_BP, iosd)
process_map_set(IOXM_RP, ioxman)
process_map_set(ISSU_STK, issu_stack)
process_map_set(LM_RP, rm)
process_map_set(MAINT_RP, periodic)
process_map_set(PLOGD_CC, plogd)
process_map_set(PLOGD_FP, plogd)
process_map_set(PLOGD_RP, plogd)
process_map_set(REPM_RP, remp)
process_map_set(SERVICE_MGR_RP, service_mgr)
process_map_set(SERVICE_MGR_FP, service_mgr)
process_map_set(SM, smand)
process_map_set(SORT_RP, sort_files)
process_map_set(VMAN_RP, vman)
process_map_set(POLJVM, jvm)
process_map_set(CLUSTERMGR, clustermgr)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/processmap.m4
No license file was found, but licenses were detected in source scan.

dnl
April 2018, Victor Kamensky
dnl
Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
divert(-1)

include(`polaris_process.m4')

include(`polaris_database_db.m4')
include(`polaris_database_db_if.m4')
include(`polaris_max_scope.m4')

divert(0)dnl
#
# This is a generated file! Instead of modifying this file,
# modify proper platform TDL file.
#
## <summary>Polaris Platform DB Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_database_if.m4
No license file was found, but licenses were detected in source scan.

dnl
April 2018, Victor Kamensky
dnl
Copyright (c) 2018-2020 by Cisco Systems, Inc.
dnl All rights reserved
dnl
VXE Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/vxemaps.m4
No license file was found, but licenses were detected in source scan.

#
# January 2021, Gabriel Lee, Shawn Liu
#
# Copyright (c) 2021 by Cisco Systems, Inc.
# All rights reserved
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisezmanage.fc
No license file was found, but licenses were detected in source scan.

#
# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris dmi_vtyserverutild Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmivtyserverutild.if
No license file was found, but licenses were detected in source scan.

#
# August 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisbsm file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbsm.fc
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris dmi_ports_fetch Policy Rules.</summary>

########################################################################
## <summary>
## Work with /bootflash/sdavc
## <summary>
## <param name="domain">
##     <summary>
##     Domain allowed access.
##     </summary>
## </param>
## </summary>
#
interface('polaris_sdavc_proxy_manage',
    gen_require('n
    type polaris_sdavc_proxy_files_t;
    ')
    manage_files_pattern($1, polaris_sdavc_proxy_files_t, polaris_sdavc_proxy_files_t)
    manage_dirs_pattern($1, polaris_sdavc_proxy_files_t, polaris_sdavc_proxy_files_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissdavcproxy.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#
/usr/bin/os/bin/cman_fp_ledp -- gen_context(system_u:object_r:polaris_cm_fp_exec_t,s0)
/usr/bin/os/bin/cman_fp_us_ledp -- gen_context(system_u:object_r:polaris_cm_fp_exec_t,s0)
/usr/bin/os/bin/cman_fp_vwl -- gen_context(system_u:object_r:polaris_cm_fp_exec_t,s0)
/usr/bin/os/bin/cman_fp_vwlc_ledp -- gen_context(system_u:object_r:polaris_cm_fp_exec_t,s0)
/usr/bin/os/bin/cman_fp_sumatraLedp -- gen_context(system_u:object_r:polaris_cm_fp_exec_t,s0)
/usr/bin/os/conf/mcp_pcie_status_cmd.sh   -- gen_context(system_u:object_r:polaris_pcie_status_cmd_exec_t,s0)
/dev/hkp -c gen_context(system_u:object_r:polaris_hkp_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmfp.fc
No license file was found, but licenses were detected in source scan.

#
# June 2020, Manu Roy
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#
# /bootflash labels
# /bootflash(/.*)?
    gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# /bootflash/ssh(/.*)?
    gen_context(system_u:object_r:ssh_home_t,s0)
# /bootflash/ssh/ssh_host.*_key\pub
    gen_context(system_u:object_r:sshd_key_t,s0)
# /bootflash/ssh/ssh_host.*_key
    gen_context(system_u:object_r:sshd_key_t,s0)
# /bootflash/core(/.*)?
    gen_context(system_u:object_r:polaris_core_file_t,s0)
# # /flash is symbolic link /flash10/USER
# /flash
    gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# #/flash1
# /flash1(/.*)?
    gen_context(system_u:object_r:polaris_disk_crashinfo_t,s0)
# /flash1/CRASH(/.*)?
    gen_context(system_u:object_r:polaris_disk_crashinfo_t,s0)
# /flash1/CRASH/tracelogs(/.*)?
    gen_context(system_u:object_r:polaris_btrace_data_t,s0)
# /flash7(/.*)?
    gen_context(system_u:object_r:polaris_disk_license_t,s0)
# /flash8(/.*)?
    gen_context(system_u:object_r:polaris_disk_license_t,s0)
# /flash9(/.*)?
    gen_context(system_u:object_r:polaris_obfl_data_t,s0)
# # /flash10
# # USER is a reserved selinux keyword - escape it like this
# /flash10(/.*)?
    gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# /flash10/USE[R]/core(/.*)?              gen_context(system_u:object_r:polaris_core_file_t,s0)
# /flash10/USE[R]/nvram_config --        gen_context(system_u:object_r:polaris_nvram_file_t,s0)
# /flash10/USER/.ssh/ssh_host_rsa_key --  gen_context(system_u:object_r:sshd_key_t,s0)
# #sdflash
# /dev/mmcblk1p1 -b
    gen_context(system_u:object_r:polaris_iots_swipedrive_device_t,s0)
# /dev/sdflash
    gen_context(system_u:object_r:polaris_iots_swipedrive_file_t,s0)
# /dev/sdflash
    gen_context(system_u:object_r:polaris_iots_swipedrive_file_t,s0)
# #usb device
# /dev/sda1 -b
    gen_context(system_u:object_r:polaris_iots_swipedrive_device_t,s0)
# #DMA ASIC driver
# /dev/mvDmaDrv
    gen_context(system_u:object_r:polaris_iots_mvDmaDrv_device_t,s0)
# /dev/mvIntDrv
    gen_context(system_u:object_r:polaris_iots_mvIntDrv_device_t,s0)
# # crashinfo is symbolic link to /mnt/sd1 created by systemd-tmpfiles
# /crashinfo
    gen_context(system_u:object_r:polaris_disk_crashinfo_t,s0)
# #/dev
# /dev/petra-fpga -c
    gen_context(system_u:object_r:polaris_iots_fpga_device_t,s0)
# /dev/petra-zynq-ps-gpio -c
    gen_context(system_u:object_r:polaris_iots_fpga_device_t,s0)
# /dev/petra-gpio-pc3 -c
    gen_context(system_u:object_r:polaris_iots_fpga_device_t,s0)
# #Line card fpga driver for mmap
# /dev/petra-lc-fpga -c
    gen_context(system_u:object_r:polaris_iots_fpga_device_t,s0)
# #memory devices
# /dev/tm -c
    gen_context(system_u:object_r:polaris_iots_tm_device_t,s0)
# /dev/hcam -c
    gen_context(system_u:object_r:polaris_iots_tm_device_t,s0)
# vlan-virtual ethernet
/dev/petra-krport -c gen_context(system_u:object_r:polaris_iots_tm_device_t,s0)

/tmp/udev/etc/udev/sdflash/udev-info gen_context(system_u:object_r:polaris_udev_tmp_files_t,s0)

# hellcat
/dev/spidev0.0 -c gen_context(system_u:object_r:polaris_iots_led_device_t,s0)
/dev/spidev0.1 -c gen_context(system_u:object_r:polaris_iots_led_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisiotswitch.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisngwcfed, 1.0);

gen_require(
    type polaris_ngwc_fed_t;
')

polaris_btrace_data_manage(polaris_ngwc_fed_t)
polaris_chasfs_manage(polaris_ngwc_fed_t)
polaris_tdlresolve_read(polaris_ngwc_fed_t)
polaris_tdldb_list_dirs(polaris_ngwc_fed_t)
polaris_lua_read(polaris_ngwc_fed_t)
polaris_flashlib_read(polaris_ngwc_fed_t)
polaris_chasync_files_manage(polaris_ngwc_fed_t)

# LOOK AT ME: system() call restriction remove after
# CSCvn19282 is fixed using CSCvn19287.
#
# fed executes cp_trace_request.sh when a sv stack split occurs.
# cp_trace_request.sh does source of pglobals.sh which requires the
# access of /crashinfo.
polaris_disk_crashinfo_getattr(polaris_ngwc_fed_t)

polaris_ripc_sman_ui_serv_connect(polaris_ngwc_fed_t)

polaris_db_tdlldb_dir_use(polaris_ngwc_fed_t)

corecmd_exec_bin(polaris_ngwc_fed_t)
corecmd_exec_shell(polaris_ngwc_fed_t)
# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_ngwc_fed_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_ngwc_fed_t)

# allow read/write to /proc/irq/N/irq files
kernel_rw_irq_sysctls(polaris_ngwc_fed_t)

polaris_obfl_data_manage(polaris_ngwc_fed_t)
polaris_lsmpi_dev_use(polaris_ngwc_fed_t)

allow polaris_ngwc_fed_t self:capability { sys_rawio dac_override ipc_owner sys_nice ipc_lock };
allow polaris_ngwc_fed_t self:capability2 block_suspend;

polaris_dyncfg_tmp_read(polaris_ngwc_fed_t)

optional_policy(
  polaris_ngwc_shm_manage(polaris_ngwc_fed_t)
)

optional_policy(
  polaris_ngwc_scc_shm_manage(polaris_ngwc_fed_t)
)

# cpp bleeds into switching platforms through fman_fp and fed
# apparently even on nyquist fed creates /tmp/cpp_anon_db
polaris_cpp_process(polaris_ngwc_fed_t)
polaris_cpp_tmp_files_use(polaris_ngwc_fed_t)

optional_policy(
  # /dev/dplr_intrpt usage
  polaris_dplr_dev_use(polaris_ngwc_fed_t)
)

# /dev/dmammap usage
polaris_dmammap_dev_use(polaris_ngwc_fed_t)

# /dev/remap_mem0 usage
polaris_remap_mem_dev_use(polaris_ngwc_fed_t)

# /dev/cli2xcvr_pipe and /dev/xcvr2cli_pipe
type polaris_fed_xcvr_pipe_t;
files_type(polaris_fed_xcvr_pipe_t)
dev_associate(polaris_fed_xcvr_pipe_t)
gen_require(
  type device_t;
)
filetrans_pattern(polaris_ngwc_fed_t, device_t, polaris_fed_xcvr_pipe_t, fifo_file, "cli2xcvr_pipe")
filetrans_pattern(polaris_ngwc_fed_t, device_t, polaris_fed_xcvr_pipe_t, fifo_file, "xcvr2cli_pipe")
manage_fifo_files_pattern(polaris_ngwc_fed_t, device_t, polaris_fed_xcvr_pipe_t)
polaris_disk_bootflash_search(polaris_ngwc_fed_t)
allow polaris_ngwc_fed_t self:process setsched;

# work with /dev/msi/Slot0/Doppler0/GroupN files
dev_rw_generic_chr_files(polaris_ngwc_fed_t)

# read /sys/devices/system/cpu/online
dev_read_sysfs(polaris_ngwc_fed_t)

# bind to shfwd port
corenet_udp_bind_polaris_ngwc_fed_shfwd_port(polaris_ngwc_fed_t)

# connect to shfwd port
corenet_tcp_connect_polaris_fed_debug_shfwd_command_port(polaris_ngwc_fed_t)

# creates and write /flash/shfwd_params.txt file
polaris_bootflash_manage(polaris_ngwc_fed_t)

# use polaris_ngwc_fed_t as syslog_client_type
logging_send_syslog_msg(polaris_ngwc_fed_t)

# bind to dbgmn port
corenet_udp_bind_polaris_ngwc_fed_dbgmn_port(polaris_ngwc_fed_t)
corenet_udp_bind_generic_node(polaris_ngwc_fed_t)
allow polaris_ngwc_fed_t self:udp_socket { bind create getopt };

optional_policy(
# on macallan cman_fp needs access to /dev/cisco/dplriomem
# for mapping dplr io memory to application space.
polaris_dplr_iomem_mmapdrv_dev_use(polaris_ngwc_fed_t);
')

# On Macallan as part of doppler sdk_asic_init(), a
# rw call is made to /dev/cpld
polaris_cpld_dev_use(polaris_ngwc_fed_t)
polaris_cpld_read(polaris_ngwc_fed_t)
#ptp_init_systemclock() called during fed process init writes
# /sys/devices/platform/cpld/reg_doppe_1588_sync
polaris_cpld_write(polaris_ngwc_fed_t)
optional_policy('}
# In Macallan cards which use Doppler ASIC,
# ngmod_doppler_mmap() api is called to get hold of
# MMapped Asic address. As part of the operation it uses
# /dev/chdrvnmmap device.
polaris_chdrvnmmap_dev_use(polaris_ngwc_fed_t)
')

# LOOK AT ME: /dev/mem access restriction remove after
# CSCvk00737 is fixed using CSCvk00741
ifdef('nyquist_platform','
polaris_dev_mem_use(polaris_ngwc_fed_t)
')

# LOOK AT ME: /dev/mem access restriction remove after
# CSCvm34589 is fixed using CSCvm34617
ifdef('starfleet_platform','
polaris_dev_mem_use(polaris_ngwc_fed_t)
')

# LOOK AT ME: /dev/mem access restriction remove after
# CSCvn64182 is fixed using CSCvn64184
ifdef('quake_platform','
polaris_dev_mem_use(polaris_ngwc_fed_t)
')

ifdef('sumatra_platform','
# LOOK AT ME: After direct usage of /dev/mem is removed (CSCvw80796)
polaris_dev_mem_use(polaris_ngwc_fed_t)
polaris_sumatra_doppler_dev_use(polaris_ngwc_fed_t)
')

# LOOK AT ME: /dev/mem access restriction remove after
# CSCvn08008 is fixed using CSCvn08019.
# FED accesses raw memory (/dev/mem) for sending/receiving OOB
# traffic on an FSS interface.
ifdef('passport_platform','
polaris_dev_mem_use(polaris_ngwc_fed_t)
')

# Entropy number is read from ACT2 and stored in /tmp/hw_entropy
# Allow sesa library read from /tmp/hw_entropy to update random
# number seed.
polaris_hw_entropy_read(polaris_ngwc_fed_t)

# fed is server for /tmp/dbgmn_log_svr socket file
type polaris_fed_sock_t;
files_tmp_file(polaris_fed_sock_t)

files_tmp_filetrans(polaris_ngwc_fed_t, polaris_fed_sock_t, sock_file, "dbgmn_log_svr")

gen_require(
    type tmp_t;
')
manage_sock_files_pattern(polaris_ngwc_fed_t, tmp_t, polaris_fed_sock_t)

optional_policy(
    # talk to rdope.sh over unix sockets
    polaris_fed_debug_sock_write(polaris_ngwc_fed_t)
')

# /dev/shm/sdm access
optional_policy(
    polaris_sdm_shm_manage(polaris_ngwc_fed_t)
')

# creates few files under /tmp/installer (e.g like
# /tmp/installer/phy_shannon_ver_1) to indicate current h/w conditions
polaris_install_tmp_manage(polaris_ngwc_fed_t)

# communication between the nif manager and fed use directories under /tmp/sv
polaris_sv_tmp_use(polaris_ngwc_fed_t)

optional_policy(
    polaris_quake_i2c_manage(polaris_ngwc_fed_t)
')

# work with /tmp files (/tmp/fed_post_results)

type polaris_fed_tmp_t;
files_tmp_file(polaris_fed_tmp_t)
files_tmp_filetrans(polaris_ngwc_fed_t, polaris_fed_tmp_t, file, "fed_post_result")
files_tmp_filetrans(polaris_ngwc_fed_t, polaris_fed_tmp_t, dir, "test_mrvlphy")
manage_files_pattern(polaris_ngwc_fed_t, polaris_fed_tmp_t, polaris_fed_tmp_t)
manage_dirs_pattern(polaris_ngwc_fed_t, polaris_fed_tmp_t, polaris_fed_tmp_t)
manage_fifo_files_pattern(polaris_ngwc_fed_t, polaris_fed_tmp_t, polaris_fed_tmp_t)
polaris_cm_rp_tmp_manage(polaris_ngwc_fed_t)

# Allow write to flash. Needed for template support.
polaris_flashlib_write(polaris_ngwc_fed_t)

# CSCvo78054 will be used to fix fed policies on crankshaft properly.
# Below policy is just to unblock Nightwatch boot issue on ISR in
# enforcing mode.
ifdef("crankshaft_family",
    # ISR Nightwatch module accesses libraries compiled with icc
polaris_icc_broken_relocations(polaris_ngwc_fed_t)

#ISR Nightwatch module creates softlink /flash -> /bootflash
gen_require(' type root_t; ')
filetrans_pattern(polaris_ngwc_fed_t, root_t, polaris_disk_bootflash_t, lnk_file, "flash")

')

optional_policy(' polaris_epc_ws_liaison_tmp_read(polaris_ngwc_fed_t) ')

# ngwc-fed manage /tmp/epc_ws/fed_to_wif_pipe file fifo_file.
optional_policy(' polaris_epc_ws_liaison_fifo_manage(polaris_ngwc_fed_t) ')

optional_policy(' polaris_ngwc_itfpo_manage(polaris_ngwc_fed_t) ')

# access SERDES /tmp/serdes_asic_key_dir/*
optional_policy(' polaris_serdes_asic_key_tmp_manage(polaris_ngwc_fed_t) ')

# ngwc-fed creates /tmp/epc_ws dir
optional_policy(' polaris_epc_ws_liaison_tmp_file(polaris_ngwc_fed_t) ')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwcfed.te
No license file was found, but licenses were detected in source scan.

# # April 2017, Victor Kamensky
# # Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/sbin/ncsshd -- gen_context(system_u:object_r:polaris_dmi_ncsshd_mgmt_exec_t,s0)
/var/run/ncsshd_mgmt.pid -- gen_context(system_u:object_r:polaris_dmi_ncsshd_mgmt_var_run_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmcshdmgmt.fc
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/mcp_smartctl_cmds.sh -- gen_context(system_u:object_r:polaris_smartctl_exec_t,s0)
/tmp/smart.pid -- gen_context(system_u:object_r:polaris_smartctl_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngiolite.fc
No license file was found, but licenses were detected in source scan.

#
# May 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/tmp/tmppub/interceptor(/.*)? gen_context(system_u:object_r:polaris_pttcd_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispttcd.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris Cfg Policy Rules.</summary>

##############################################################################
# Cfg files policy
##############################################################################

##############################################################################

## <summary>
## Manage cfg files (under /tmp/sw/cfg)
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <rolebase/>
#
interface('polaris_cfg_data_manage',
        gen_require(''
type polaris_cfg_data_t;
''
    manage_dirs_pattern($1, polaris_cfg_data_t, polaris_cfg_data_t)
    manage_files_pattern($1, polaris_cfg_data_t, polaris_cfg_data_t)
    manage_link_files_pattern($1, polaris_cfg_data_t, polaris_cfg_data_t)
''
    )

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscfg.if
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisngiolite, 1.0);

gen_require(''
    type polaris_ngiolite_t;
''
    )

polaris_btrace_data_manage(polaris_ngiolite_t)
polaris_crft_data_manage(polaris_ngiolite_t)
polaris_chasfsmanage(polaris_ngiolite_t)
polaris_tdlresolve_read(polaris_ngiolite_t)
polaris_tldldb_list_dirs(polaris_ngiolite_t)
polaris_cpld_read(polaris_ngiolite_t)
polaris_flashlib_read(polaris_ngiolite_t)

optional_policy(''
polaris_cpp_tmp_ifdev_use(polaris_ngiolite_t)
''
    )

# In the file of radium_xcvr.c allow access to create and bind
# the socket using the API bnxt_impl_init_netlink.
allow polaris_ngiolite_t self:netlink_generic_socket { bind create getattr setopt };

# in iot platforms, ngiolite needs access to /proc/sys/net/ipv6/conf/mvsw/disable_ipv6
optional_policy(
  kernel_rw_net_syscts(polaris_ngiolite_t)
kernle_search_network_sysct(polaris_ngiolite_t)
')

# PLEASE LOOK AT code should not use sysv IPC ARIs,
# instead POSIX variants must be used. Remove after
# code changed in proper way
# allow access sysv semaphor created by qfp process
ifdef(`crankshaht_family',`
polaris_qfp_sem_use(polaris_ngiolite_t)
polaris_ggpio_dev_read_write(polaris_ngiolite_t)
polaris_dplr_dev_use(polaris_ngiolite_t)
')

ifdef(`fugazi_platform',`
polaris_qfp_sem_use(polaris_ngiolite_t)
')

# write access to /sys/bus/pci/rescan
dev_rw_sysfs(polaris_ngiolite_t)
# LOOK AT ME ngiolite does it through "echo 1 > /sys/bus/pci/rescan" seems to much
# to grunt shell and bin access just to write "1" string into the file
corecmd_exec_bin(polaris_ngiolite_t)
corecmd_exec_shell(polaris_ngiolite_t)
# allow read of /etc/passwd
auth_use_nsswth(polaris_ngiolite_t)
polaris_firmware_read(polaris_ngiolite_t)
polaris_udv_tmp_list_dirs(polaris_ngiolite_t)

# allow access to read the file cmn rommon file.
polaris_proc_ronbifo_getattr(polaris_ngiolite_t)
polaris_proc_ronbifo_read(polaris_ngiolite_t)

allow polaris_ngiolite_t self:capability { net_admin sys_rawio };

# allow system time capability to check for system timeout
# while checking the state using API cwan_modem_check_ready_state
allow polaris_ngiolite_t self:capability sys_time;

# allow access to nim_xxd file created by cmcc
polaris_nim_xxd_tmp_open_unlink(polaris_ngiolite_t);
# ngiolite needs to work with /dev/sd /dev/sg devices to figure out disk driver
# params. drivers/userspace/nim_xxds library
storage_raw_read_fixed_disk(polaris_ngiolite_t)
storage_read_scsi_generic(polaris_ngiolite_t)
storage_write_scsi_generic(polaris_ngiolite_t)
polaris_sysfs_platform_dev_use(polaris_ngiolite_t)

# LOOK AT ME: ngiolite needs to work with /dev/ds31408, which is generic device_t now
gen_require(''
type device_t;
')

rw_chr_files_pattern(polaris_ngiolite_t, device_t, device_t)

# modprobe nim_dm dm_drv_log_level=0x01
ifdef('crankshaft_family','
modutils_domtrans_insmod(polaris_ngiolite_t)
')
polaris_smartctl_domtrans(polaris_ngiolite_t)

# utah_fpge_driver.c needs socket to configure interface parameters
allow polaris_ngiolite_t self:udp_socket create_socket_perms;
polaris_utility_domain_template(smartctl)
corecmd_exec_bin(polaris_smartctl_t)
corecmd_exec_shell(polaris_smartctl_t)

# allow access to polaris_cpp_tmpfs_t file
# Example is ifdev shared memory /dev/shm/cpp_ifdev_shmem
# The ngiolite init function calls the api ifdev_init
# to initialize shared memory control info.
fs_getattr_tmpfs(polaris_ngiolite_t)
polaris_cpp_tmpfs_ifdev_rw(polaris_ngiolite_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_smartctl_t)
logging_send_syslog_msg(polaris_smartctl_t)

fstools_domtrans(polaris_smartctl_t)

# runs tar /bin/tar -xvzf /firmware/MicronP400m-MTFDDAK200MAN.pkg -C /firmware
polaris_firmware_manage(polaris_smartctl_t)
files_getattr_all_dirs(polaris_smartctl_t)
files_read_all_symlinks(polaris_smartctl_t)
# work with /dev/sgX
storage_read_scsi_generic(polaris_smartctl_t)
storage_write_scsi_generic(polaris_smartctl_t)

allow polaris_smartctl_t self:capability { chown dac_override fowner fsetid }

type polaris_smartctl_tmp_t;
files_tmp_file(polaris_smartctl_tmp_t)
files_tmp_filetrans(polaris_smartctl_t, polaris_smartctl_tmp_t, file, "smart.pid")
manage_files_pattern(polaris_smartctl_t, polaris_smartctl_tmp_t, polaris_smartctl_tmp_t)

# script inherits stdout from ngiolite, needs permission to append to it
polaris_use_btrace_fifo(polaris_smartctl_t)

# LOOK AT ME: raw memory access in cavium vendor SDK
# related to octeon driver (BUG CSCv55517)
ifdef(`crankshaft_family',`
  polaris_dev_mem_use(polaris_ngiolite_t)
')

ifdef(`sparrow_platform',`
  polaris_cm_cc_tmpfs_manage(polaris_ngiolite_t)
polaris_tty_NMEA_dev_use(polaris_ngiolite_t)
')

ifdef(`blackheart_platform',`
  polaris_cm_cc_tmpfs_manage(polaris_ngiolite_t)
')

ifdef(`cabo_platform',`
  polaris_cm_cc_tmpfs_manage(polaris_ngiolite_t)
')

ifdef(`aventus_platform',`
  polaris_cm_cc_tmpfs_manage(polaris_ngiolite_t)
polaris_tty_NMEA_dev_use(polaris_ngiolite_t)
')

ifdef(`crankshaft_family',`
  # allow scan pci/devices proc dir
  # The ngiolite init function makes call to o2_cvmx_remote_open to
  # open the remote library connection to cavium chip in FFP,
  # The octeon library call invokes pci_get_device, which needs to
  # access /proc .
  kernel_getattr_proc_files(polaris_ngiolite_t)
kernl_write_proc_files(polaris_ngiolite_t)
kernl_read_system_state(polaris_ngiolite_t)
# allow access to /tmp/octeon-remote-lock-pci***
# This is required as part of ngiolite access of octeon chip.
# As part of the init, call is made to octeon_remote_lock()
# which requires access to the /tmp file.
polaris_cm_fp_tmp_filetrans(polaris_ngiolite_t)
polaris_cm_fp_tmp_manage(polaris_ngiolite_t)

#########################################################################
## CWAN NGIOLITE process policies start#############
#########################################################################
#cwan running as a ngiolite process needs to be able to RW/IOCTL to qcqmiX files
polaris_qcqmi_dev_use(polaris_ngiolite_t)

#RDM thread in CWAN running as ngiolite process needs access to ttyUSB0 for DM logging
term_use_usb_ttys(polaris_ngiolite_t)

#RDM/Event thread needs to add a newly generated DM log file/ Crash dump file to/from bootflash directory
polaris_bootflash_manage(polaris_ngiolite_t)

#Modem Monitor thread uses sendto over a Datagram socket to send data to Turing Thread
allow polaris_ngiolite_t self:unix_dgram_socket sendto;

#Modem Monitor thread opens a socket to UDEV to process Modem USB addition/disconnection events
allow polaris_ngiolite_t self:netlink_kobject_uevent_socket create_socket_perms;

#Modem Monitor thread needs to be able to open/Read and GetAttributes to differentiate between Telit/SWI vendor
udev_rw_db(polaris_ngiolite_t)

#Turing thread needs to gather stats as well as set the IP address to /proc/net/cwan_modem0/cwan0/src_ip
kernel_search_network_state(polaris_ngiolite_t)
polaris_kernel_rw_network_state_files(polaris_ngiolite_t)

#########################################################################
## CWAN NGIOLITE process policies end#############
#########################################################################

')

# on tsn need access to /sys/devices/platform/moka_fpga/
# /sys/devices/platform/moka_fpga/external_int_pending dev
optional_policy('polaris_mokafpga_rw(polaris_ngiolite_t)
')

# on radium need to get model info
optional_policy('polaris_dash_dev_use(polaris_ngiolite_t)
')
# work with contdev sysfs files
polaris_contdev_dev_read(polaris_ngiolite_t)

sysnet_domtrans_ifconfig(polaris_ngiolite_t)

logging_send_syslog_msg(polaris_ngiolite_t)

ifdef(`neptune_platform';`
opolaris_cpp_cavium_sdk_ipc_use(polaris_ngiolite_t)
')

optional_policy(`
opolaris_nim_dm_dev_use(polaris_ngiolite_t)
')

ifdef(`radium_platform';`
# allow ngiolite to access nim_phy_device
polaris_nim_phy_dev_use(polaris_ngiolite_t)
')

# TODO/FIXME, Need to review this permission, this is related to
# the call "echo 1 > /sys/bus/pci/rescan"
dev_manage_sysfs_dirs(polaris_ngiolite_t)
allow polaris_ngiolite_t sysfs_t:file create;

# allow ngiolite to access sfp over i2c bus
polaris_i2c_use(polaris_ngiolite_t)

# on neptune, cavium library in o2_cavm_mem_map wants access to
# /sys/devices/pci0000:00/0000:00:01.0/0000:01:00.0/resource0
optional_policy(`
polaris_cpp_cavium_dma_map(polaris_ngiolite_t)
')

# /dev/sfp-ktr & qfp sem access on Katar
ifdef(`katar_platform';`
polaris_sfp_katar_dev_use(polaris_ngiolite_t)
polaris_qfp_sem_use(polaris_ngiolite_t)
fs_getattr_tmpfs(polaris_ngiolite_t)
polaris_cpp_tmpfs_ifdev_rw(polaris_ngiolite_t)
')

# allow /usr/binos/bin/ngiolite to access /tmp/nim_xxd_present
gen_require(`
    type polaris_cmrp_nim_xxd_tmp_t;
')
files_tmp_file(polaris_cmrp_nim_xxd_tmp_t)
files_tmp_filetrans(polaris_ngiolite_t, polaris_cm_rp_nim_xxrd_tmp_t, file, "nim_xxrd_present")
manage_files_pattern(polaris_ngiolite_t, polaris_cm_rp_nim_xxrd_tmp_t, polaris_cm_rp_nim_xxrd_tmp_t)

# allow /usr/binos/bin/ngiolite to access /tmp hd sz
gen_require(' type udev_tmp_t;
')
read_files_pattern(polaris_ngiolite_t, udev_tmp_t, udev_tmp_t)

# allow /usr/sbin/lvm to be executed and to be operated
lvm_domtrans(polaris_ngiolite_t)

# allow /usr/binos/bin/ngiolite to manage /tmp
type polaris_ngiolite_tmp_t;
files_tmp_file(polaris_ngiolite_tmp_t)
# allow /usr/binos/bin/ngiolite to manage /tmp/smartctl.out and
# /	mp/xxdisplay.out
files_tmp_filetrans(polaris_ngiolite_t, polaris_ngiolite_tmp_t, file)
manage_files_pattern(polaris_ngiolite_t, polaris_ngiolite_tmp_t, polaris_ngiolite_tmp_t)

# allow /usr/sbin/smartctl to operate on fsadm_exec_t
fstools_domtrans(polaris_ngiolite_t)

# allow /usr/sbin/smartctl to access nvme device in chr and blk
dev_nvme_chr_files_manage(polaris_ngiolite_t)
dev_nvme_blk_files_manage(polaris_ngiolite_t)

ifdef('sumatra_platform',
  # dev/cpld
  polaris_cpld_dev_use(polaris_ngiolite_t)
  
  # manage "sysctl_i2c.lck"
  gen_require(' type polaris_cm_rp_tmp_t;
    ')
  files_tmp_filetrans(polaris_ngiolite_t, polaris_cm_rp_tmp_t, file, "sysctl_i2c.lck")
polaris_cm_rp_tmp_managet(polaris_ngiolite_t)

  # access /dev/huron_fpga
  polaris_huron_dev_use(polaris_ngiolite_t)
  ')

ifdef('crankshaft_family',
  # /var/run/cwan socket and pid
  gen_require(' type polaris_cwan_svr_var_run_t;
    ')

files_pid_filetrans(polaris_ngiolite_t, polaris_cwan_svr_var_run_t, sock_file, "cwan_ezmanage_cwan_server")
create_sock_files_pattern(polaris_ngiolite_t, polaris_cwan_svr_var_run_t, polaris_cwan_svr_var_run_t, polaris_cwan_svr_var_run_t)
delete_sock_files_pattern(polaris_ngiolite_t, polaris_cwan_svr_var_run_t, polaris_cwan_svr_var_run_t, polaris_cwan_svr_var_run_t)

# allow /usr/binos/bin/ngiolite to access the following interface
fs_unmount_xattr_fs(polaris_ngiolite_t)
devebaydevsymlinks(polaris_ngiolite_t)
polaris_udev_tmp_manage(polaris_ngiolite_t)

# ngiolite/ezManage access rules - currently only applies to TSN
optional_policy(
    # Allow ngiolite to access ezManage dgram socket
gen_require(
            type polaris_ezmanage_t;
    )
    allow polaris_ngiolite_t polaris_ezmanage_t:unix_dgram_socket sendto;

    # Allow ngiolite to access ezManage socket file in /var/run
    polaris_manage_ezmanage_var_run_files(polaris_ngiolite_t)
')

# allow ngiolite to access /dev/nim_phy
ifdef('crankshaft_family',
polaris_nim_phy_dev_use(polaris_ngiolite_t)
')

# allow ioctl, read, wr permission for ds31408 device
optional_policy(
    polaris_ds31408_dev_use(polaris_ngiolite_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngiolite.te
No license file was found, but licenses were detected in source scan.

#
# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/	mp\ncsshd_bp\socket  -s gen_context(system_u:object_r:polaris_dmi_ncsshd_log_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmincsshdwd.fcd
No license file was found, but licenses were detected in source scan.

# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris vdaemon Policy Rules.</summary>

### <summary>
### Write vdaemon /var/run socket file
### </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_vdaemon_var_sock_write',
    gen_require(`
        type polaris_vdaemon_t;
        type polaris_vdaemon_var_run_t;
        type var_run_t;
    `)
    write_sock_files_pattern($1, var_run_t, polaris_vdaemon_var_run_t)
    allow $1 polaris_vdaemon_t:unix_stream_socket { connectto };
    `)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisvdaemon.if

No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisboothelper, 1.0);

polaris_process_domain_template(boothelper_evt)

corecmd_exec_bin(polaris_boothelper_evt_t)
# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_boothelper_evt_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_boothelper_evt_t)

polaris_cpld_read(polaris_boothelper_evt_t)

################################################################################################################
# work with /tmp/udev/

type polaris_udev_tmp_files_t;
files_tmp_file(polaris_udev_tmp_files_t)

polaris_systemd_tmpfiles_tmp_filetrans(polaris_udev_tmp_files_t, dir, "udev")

polaris_bootflash_manage(polaris_boothelper_evt_t)

type polaris_boothelper_tmp_t;
files_tmp_file(polaris_boothelper_tmp_t)
files_tmp_filetrans(polaris_boothelper_evt_t, polaris_boothelper_tmp_t, dir, "rommon_upgrade_ngwc")
manage_files_pattern(polaris_boothelper_evt_t, polaris_boothelper_tmp_t, polaris_boothelper_tmp_t)
manage_dirs_pattern(polaris_boothelper_evt_t, polaris_boothelper_tmp_t, polaris_boothelper_tmp_t)
# watch over /tmp/rommon_upgrade_ngwc
allow polaris_boothelper_evt_t polaris_boothelper_tmp_t:dir watch;

# nyquist creates /tmp/udev_ssd.log
gen_require(`
            type udev_t;
    `)
files_tmp_filetrans(udev_t, polaris_udev_tmp_files_t, file, "udev_ssd.log")
fs_tmpfs_filetrans(udev_t, polaris_udev_tmp_files_t, file, "udev_ssd.log")

# create /dev/harddisk1 softlink during bootup
ifdef(`crankshaft_family',`
gen_require(`
         type device_t;
         type initrc_t;
         type fixed_disk_device_t;
    `)
filetrans_pattern(initrc_t, device_t, fixed_disk_device_t, lnk_file, "harddisk1")`
)`
# restorecon under setfiles_t appends to /tmp/udev_ssd.log
gen_require(`
         type setfiles_t;
    `)
polaris_udev_tmp_manage(setfiles_t)
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisboothelper.te
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarsnmssp, 1.0);

generate(require(
    type polars_nmspd_t;
    ')
    polaris_btrace_data_manage(polars_nmspd_t)
polaris_crft_data_manage(polars_nmspd_t)
polaris_chasfs_manage(polars_nmspd_t)
polaris_tdlresolve_read(polars_nmspd_t)
polaris_tdlldb_list_dirs(polars_nmspd_t)
polaris_cpld_read(polars_nmspd_t)
polaris_lua_read(polars_nmspd_t)
polaris_flashlib_read(polars_nmspd_t)
polaris_ripc_sman_ui_serv_connect(polars_nmspd_t)
polaris_db_tdlldb_dir_use(polars_nmspd_t)

# //////////////////////////////////////////////////////////////////////
# mqipc manual, one that missing in platform tdl file
# //////////////////////////////////////////////////////////////////////
type polars_nmspd_testclient1_mqipc_t;
polaris_mqipc_type(polars_nmspd_testclient1_mqipc_t)
type polars_nmspd_testclient2_mqipc_t;
polaris_mqipc_type(polars_nmspd_testclient2_mqipc_t)
type polars_testclient1_nmspd_mqipc_t;
polaris_mqipc_type(polars_testclient1_nmspd_mqipc_t)
type polars_testclient2_nmspd_mqipc_t;
polaris_mqipc_type(polars_testclient2_nmspd_mqipc_t)
polaris_mqipc_create_name(polars_nmspd_t, polars_nmspd_testclient1_mqipc_t, nmspd-testclient1)
polaris_mqipc_use(polars_nmspd_t, polars_testclient1_nmspd_mqipc_t)
polaris_mqipc_create_name(polaris_nmspd_t, polaris_nmspd_testclient2_mqipc_t, nmspd-testclient2)
polaris_mqipc_use(polaris_nmspd_t, polaris_testclient2_nmspd_mqipc_t)

# stuff related to vrf support of the socket
polaris_lfts_dev_use(polaris_nmspd_t)
polaris_socketat_nfs_read(polaris_nmspd_t)
# enable listen on tcp port 16113
corenets_tcp_bind polaris_nmspd_port(polaris_nmspd_t)

allow polaris_nmspd_t self:capability dac_override;

# Allow IPC messages to Btrace Process from NMSPD Process
logging_send_syslog_msg(polaris_nmspd_t)
# Allow NMSPD to read DNS file for nameresolution
sysnet_read_config(polaris_nmspd_t)

# NMSPD uses cURL to open HTTP coonections and SSL to open TLS Connections
# to DNASpaces and CMX respectively
gen_require(''
    type node_t;
')
allow polaris_nmspd_t node_t:udp_socket node_bind;
allow polaris_nmspd_t self:udp_socket { bind connect getattr };
corenets_tcp_connect_http_port(polaris_nmspd_t)
polaris_odm_clnt2svr_mqipc_create(polaris_nmspd_t)

#DB persistence
polaris_tlddbpersist_setup(polaris_nmspd_t)
polaris_tmp_tlddb_persist_setup(polaris_nmspd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisnmspd.te
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisftm, 1.0);

gen_require(''
    type polaris_ftm_t;
')
polaris_chasfs_manage(polaris_ftm_t)
polaris_cpld_read(polaris_ftm_t)
polaris_flashlib_read(polaris_ftm_t)
polaris_tdlresolve_read(polaris_ftm_t)

polaris_ripc_sman_ui_serv_connect(polaris_ftm_t)

polaris_db_tdlcdb_dir_use(polaris_ftm_t)

logging_send_syslog_msg(polaris_ftm_t)

corecmd_exec_bin(polaris_ftm_t)
corecmd_exec_shell(polaris_ftm_t)
auth_use_nsswitch(polaris_ftm_t)

# vconfd_load_shared_schemas
polaris_confd_shared_schema_read(polaris_ftm_t)

# work with /tmp/xml
polaris_cedge_xml_tmp_manage(polaris_ftm_t)

# work with /tmp/tmp
polaris_cedge_tmp_manage(polaris_ftm_t)

polaris_cedge_reset_ns(polaris_ftm_t)

#/var/run/.ftmd-xxx sockets and pid
type polaris_ftm_var_run_t;
files_pid_file(polaris_ftm_var_run_t)
manage_files_pattern(polaris_ftm_t, polaris_ftm_var_run_t, polaris_ftm_var_run_t)
manage_sock_files_pattern(polaris_ftm_t, polaris_ftm_var_run_t, polaris_ftm_var_run_t)
files_pid_filetrans(polaris_ftm_t, polaris_ftm_var_run_t, { file sock_file })

polaris_cfgmgr_var_sock_write(polaris_ftm_t)
polaris_dbgd_var_sock_write(polaris_ftm_t)
polaris_fpm_var_sock_write(polaris_ftm_t)
polaris_ttm_var_sock_write(polaris_ftm_t)
polaris_vdaemon_var_sock_write(polaris_ftm_t)

# PLEASE LOOK AT ME: write access to /boot/hugepage.conf
# which on ultra translates into /varied/hugepage.conf access
# But no code in polaris uses it
polaris_disk_varied_manage(polaris_ftm_t)
files_manage_boot_files(polaris_ftm_t)

# fp_scaling_init calls posix_sysconf
dev_read_sysfs(polaris_ftm_t)

# vip_execute_nowait uses setpgid
allow polaris_ftm_t self:process setpgid;
polaris_cedge_tmpfs_manage(polaris_ftm_t)

# raw socket access from trace_tunnel_socket_icmp_init ftm_binos_trace.c
allow polaris_ftm_t self:rawip_socket create_socket_perms;
allow polaris_ftm_t self:capability net_raw;

# bind to ftm fnf port
corenet_udp_bind_polaris_ftm_fnf_port(polaris_ftm_t)
corenet_udp_bind_generic_node(polaris_ftm_t)

# ftm may create vrf-based netns on demand, vrf.65528
polaris_vrf_netns_manage(polaris_ftm_t)

# creates /tmp/HTX-IOX/sw-htx-service
optional_policy(
    polaris_htx_iox_tmp_manage(polaris_ftm_t)
)

# fp_scaling_read_core_count accesses cgroups file at
# /sys/fs/cgroup/cpuset/iosxe_control_processes/cpuset.cpus
fs_read_cgroup_files(polaris_ftm_t)

# ftm_change_default_gw_src_ip calls ip utility
sysnet_domtrans_ifconfig(polaris_ftm_t)

# ftm process periodically call nice utility to gzip some xml file
allow polaris_ftm_t self:process setsched;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisftm.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
### <summary>Polaris fman_fp Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfmanfp.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/tmp/replication(/.*)? gen_context(system_u:object_r:polaris_repm_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrepm.fc
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# March 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
### <summary>Polaris Btrace Policy Rules.</summary>

### Polaris cpp (ultra)

```
### <summary>
### Work (read, write, ioctl) with /dev/cpp_dev_info and /dev/cpp_vxe_rsrc
### devices.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
### <rolebase/>
# interface('polaris_cpp_dev_use',
  gen_require('  
    type device_t;
    type polaris_cpp_device_t;
  ')
  write_chr_files_pattern($1, device_t, polaris_cpp_device_t)
  read_chr_files_pattern($1, device_t, polaris_cpp_device_t)
  allow $1 polaris_cpp_device_t:chr_file map;
  polaris_i95_dev_use($1)
  ')
```

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 707
## <summary>
##      Make the specified domain as polaris cpp process.
## </summary>
## <param name="type">
##      <summary>
##      Type to be used as a cpp process.
##      </summary>
## </param>
#
interface('polaris_cpp_process',
    gen_require(
        attribute polaris_cpp_domain;
    ')

typeattribute $1 polaris_cpp_domain;
')

########################################
## <summary>
##      Make the specified domain able to use cpp /tmp files.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <param name="object">
##      <summary>
##      File name in /tmp that domains creates and other cpp process
##      access.
##      </summary>
## </param>
#
interface('polaris_cpp_tmp_files_use',
    gen_require(
        type polaris_cpp_tmp_t;
    ')

    files_tmp_filetrans($1, polaris_cpp_tmp_t, file, $2)
    manage_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
    allow $1 polaris_cpp_tmp_t:file map;
')

########################################
## <summary>
##      Specified domain can execute polaris_cpp_tmpifs_t code
##      which resides in /dev/shm/cpp_ucode_dram
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_cpp_tmpfs_exec`,
  gen_require(
    type polaris_cpp_tmpfs_t;
  ')

  allow $1 polaris_cpp_tmpfs_t:file execute;
')

########################################
## <summary>
##      Read write from polaris_cpp_tmpfs_t file
##      Example is ifdev shared memory /dev/shm/cpp_ifdev_shmem
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface(`polaris_cpp_tmpfs_ifdev_rw`,
#  gen_require(
#    type tmpfs_t;
#    type polaris_cpp_tmpfs_t;
#  ')
#
#  rw_files_pattern($1, tmpfs_t, polaris_cpp_tmpfs_t)
#  allow $1 polaris_cpp_tmpfs_t:file map;
')

########################################
## <summary>
##      Make the specified domain able to work with cpp /tmp/cpp_ifdev_rep and
## /tmp/cpp_ifdev_req pipe files.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_cpp_tmp_ifdev_use`,

gen_require('type polaris_cpp_tmp_t;')

manage_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
allow $1 polaris_cpp_tmp_t.file map;
')

########################################
## <summary>
##      Make the specified domain able to getattr of /tmp/cpp_ifdev_rep and
## /tmp/cpp_ifdev_req pipe files.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_tmp_ifdev_getattr', gen_require('type polaris_cpp_tmp_t;')

getattr_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
')

########################################
## <summary>
##      Allow process to use Cavium SDK sysv IPC primitives
## created by octeon_pci_dmap.c. Those could be created either
## by cpp_driver (usually) or by cpp_cdm on utah and overlord,
## and by cm_fp on neptune.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_cavium_sdk_ipc_use',
ifdef('crankshaft_family',
polaris_cpp_driver_sem_use($1)
polaris_cpp_driver_shm_use($1)
optional_policy(
polaris_cpp_cdm_sem_use($1)
polaris_cpp_cdm_shm_use($1)

# gen_require('type polaris_cpp_tmp_t;')

manage_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
allow $1 polaris_cpp_tmp_t.file map;
')

########################################
## <summary>
##      Make the specified domain able to getattr of /tmp/cpp_ifdev_rep and
## /tmp/cpp_ifdev_req pipe files.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_tmp_ifdev_getattr', gen_require('type polaris_cpp_tmp_t;')

getattr_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
')

########################################
## <summary>
##      Allow process to use Cavium SDK sysv IPC primitives
## created by octeon_pci_dmap.c. Those could be created either
## by cpp_driver (usually) or by cpp_cdm on utah and overlord,
## and by cm_fp on neptune.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_cavium_sdk_ipc_use',
ifdef('crankshaft_family',
polaris_cpp_driver_sem_use($1)
polaris_cpp_driver_shm_use($1)
optional_policy(
polaris_cpp_cdm_sem_use($1)
polaris_cpp_cdm_shm_use($1)

# gen_require('type polaris_cpp_tmp_t;')

manage_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
allow $1 polaris_cpp_tmp_t.file map;
')

########################################
## <summary>
##      Make the specified domain able to getattr of /tmp/cpp_ifdev_rep and
## /tmp/cpp_ifdev_req pipe files.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_tmp_ifdev_getattr', gen_require('type polaris_cpp_tmp_t;')

getattr_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
')

########################################
## <summary>
##      Allow process to use Cavium SDK sysv IPC primitives
## created by octeon_pci_dmap.c. Those could be created either
## by cpp_driver (usually) or by cpp_cdm on utah and overlord,
## and by cm_fp on neptune.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_cavium_sdk_ipc_use',
ifdef('crankshaft_family',
polaris_cpp_driver_sem_use($1)
polaris_cpp_driver_shm_use($1)
optional_policy(
polaris_cpp_cdm_sem_use($1)
polaris_cpp_cdm_shm_use($1)

# gen_require('type polaris_cpp_tmp_t;')

manage_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
allow $1 polaris_cpp_tmp_t.file map;
')

########################################
## <summary>
##      Make the specified domain able to getattr of /tmp/cpp_ifdev_rep and
## /tmp/cpp_ifdev_req pipe files.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_tmp_ifdev_getattr', gen_require('type polaris_cpp_tmp_t;')

getattr_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
')

########################################
## <summary>
##      Allow process to use Cavium SDK sysv IPC primitives
## created by octeon_pci_dmap.c. Those could be created either
## by cpp_driver (usually) or by cpp_cdm on utah and overlord,
## and by cm_fp on neptune.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_cavium_sdk_ipc_use',
ifdef('crankshaft_family',
polaris_cpp_driver_sem_use($1)
polaris_cpp_driver_shm_use($1)
optional_policy(
polaris_cpp_cdm_sem_use($1)
polaris_cpp_cdm_shm_use($1)

# gen_require('type polaris_cpp_tmp_t;')

manage_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
allow $1 polaris_cpp_tmp_t.file map;
')

########################################
## <summary>
##      Make the specified domain able togetattr of /tmp/cpp_ifdev_rep and
## /tmp/cpp_ifdev_req pipe files.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_tmp_ifdev_getattr', gen_require('type polaris_cpp_tmp_t;')

getattr_fifo_files_pattern($1, tmp_t, polaris_cpp_tmp_t)
')

########################################
## <summary>
##      Allow process to use Cavium SDK sysv IPC primitives
## created by octeon_pci_dmap.c. Those could be created either
## by cpp_driver (usually) or by cpp_cdm on utah and overlord,
## and by cm_fp on neptune.
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cpp_cavium_sdk_ipc_use',
ifdef('crankshaft_family',
polaris_cpp_driver_sem_use($1)
polaris_cpp_driver_shm_use($1)
optional_policy(
polaris_cpp_cdm_sem_use($1)
polaris_cpp_cdm_shm_use($1)
optional_policy(' 
    polaris_cm_fp_sem_use($1)  
    polaris_cm_fp_shm_use($1) 
  ')

# allow scan pci/devices proc dir  
kernel_getattr_proc_files($1)  
kernel_write_proc_files($1)  
kernel_read_system_state($1)

')

#******************************************************************************
## <summary>
##      Work (read, write, ioctl) with /dev/i95 devices  
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.  
##      </summary>
## </param>
#
#interface('polaris_i95_dev_use',
  gen_require('  
    type device_t;
    type polaris_i95_device_t;
  ')
write_chr_files_pattern($1, device_t, polaris_i95_device_t)
read_chr_files_pattern($1, device_t, polaris_i95_device_t)
allow $1 polaris_i95_device_t:chr_file map;
')

#******************************************************************************
## <summary>
##      Work (read, write, map) with sysfs files required  
##      by cavium library in o2_cavm_mem_map.  
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.  
##      </summary>
## </param>
#
#interface('polaris_cpp_cavium_dma_map',
  gen_require('  
    type sysfs_t;
  ')}
mmap_files_pattern($1, sysfs_t, sysfs_t)
dev_rw/sysfs($1)
')

*******************************************************************************
## <summary>
## Manage /dev/shm files
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolebase/>
#
interface(`polaris_cpp_tmpfs_manage',`
  gen_require(`
type polaris_cpp_tmpfs_t;
type tmpfs_t;
')

  fs_tmpfs_filetrans($1, polaris_cpp_tmpfs_t, file)
  manage_files_pattern($1, tmpfs_t, polaris_cpp_tmpfs_t)
  allow $1 polaris_cpp_tmpfs_t:file map;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscpp.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris bt_logger Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbtlogger.if
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved

### /bootflash labels

```bash
# /bootflash(/.*)?     gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
# /bootflash/ssh(/.*)? gen_context(system_u:object_r:ssh_home_t,s0)
# /bootflash/ssh/ssh_host.*_key\*pub  gen_context(system_u:object_r:sshd_key_t,s0)
# /bootflash/ssh/ssh_host.*_key       gen_context(system_u:object_r:sshd_key_t,s0)
# /bootflash/tracelogs(/.*)?         gen_context(system_u:object_r:polaris_btrace_data_t,s0)
# /bootflash/tan(/.*)?              gen_context(system_u:object_r:polaris_btrace_data_t,s0)
# /bootflash/core(/.*)?             gen_context(system_u:object_r:polaris_core_file_t,s0)
# /bootflash/debug.conf            gen_context(system_u:object_r:polaris_debug_conf_t,s0)
# /bootflash/packages.conf         gen_context(system_u:object_r:polaris_packages_conf_t,s0)
```

```bash
# /csl_p_0
/csl_p_0(/.*)?     gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
```

```bash
# /csl_p_1.context
/csl_p_1(/.*)?     gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
```

```bash
# /csl_s_0.context
/csl_s_0(/.*)?     gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)
```

```bash
# /csl_s_1.context
/csl_s_1(/.*)?     gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)
```

```bash
# /obfl is separate on qwlc
/obfl(/.*)?        gen_context(system_u:object_r:polaris_obfl_data_t,s0)
```

```bash
# /varied
/varied(/.*)?      gen_context(system_u:object_r:polaris_disk_varied_t,s0)
/varied/install_info gen_context(system_u:object_r:polaris_vwlcininstall_info_t,s0)
/varied/obfl.*     gen_context(system_u:object_r:polaris_obfl_data_t,s0)
/varied/grub_cisco_version gen_context(system_u:object_r:polaris_grubver_t,s0)
/varied/grub(/.*)? gen_context(system_u:object_r:boot_t,s0)
/varied/grub2(/.*)? gen_context(system_u:object_r:polaris_grub_bios_t,s0)
/varied/grub/menu.* gen_context(system_u:object_r:bootloader_etc_t,s0)
/sbin/grub*        gen_context(system_u:object_r:bootloader_exec_t,s0)
```

```bash
# /bootefi
/bootefi(/.*)?     gen_context(system_u:object_r:polaris_grub_efi_t,s0)
```

```bash
# hanet driver used by vwlc and ultra, is there better place for it?
/dev/hanet -c gen_context(system_u:object_r:polaris_hanet_device_t,s0)
```

```bash
# from /lib/tmpfiles.d/binos-vxe.conf
/lic0 -l          gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
/lic1 -l          gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)
```
# /harddisk labels (qwlc)

```
/vol/harddisk(/.*)?               gen_context(system_u:object_r:polaris_disk_harddisk_t,s0)
/vol/harddisk/tracelogs(/.*)?    gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/vol/harddisk/tan(/.*)?          gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/vol/harddisk/core(/.*)?         gen_context(system_u:object_r:polaris_core_file_t,s0)
/vol/harddisk/debug.conf         gen_context(system_u:object_r:polaris_debug_conf_t,s0)
```

# /init is symbolic link to /lib/systemd/systemd
```
/init  -l gen_context(system_u:object_r:init_exec_t,s0)
```

# /disk0 is symbolic link to /vol/disk0
```
disk0 -l gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
```

# /dev/epa device on qwlc
```
/dev/epa[0-9]*                    -c gen_context(system_u:object_r:polaris_epa_device_t,s0)
/dev/epactrl[0-9]*                 -c gen_context(system_u:object_r:polaris_epa_device_t,s0)
```

# /dev/luna_fpga on qwlc
```
/dev/luna_mbfpga                   -c gen_context(system_u:object_r:polaris_luna_mbfpga_device_t,s0)
```

# /dev/astro on qwlc
```
/dev/astro                         -c gen_context(system_u:object_r:polaris_astro_device_t,s0)
```

# /dev/cpp_il on qwlc
```
/dev/cpp_il                        -c gen_context(system_u:object_r:polaris_cpp_il_device_t,s0)
```

# /flash is symbolic link to /bootflash on qwlc
```
flash                               gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
```

# /dev/oob_evfc on qwlc
```
/dev/oob_evfc                       -c gen_context(system_u:object_r:polaris_oob_evfc_device_t,s0)
```

# /dev/sfp-ktr on katar
```
/dev/sfp-ktr                        -c gen_context(system_u:object_r:polaris_sfp_katar_device_t,s0)
```

# To store tcpdump output in file haIntCaptureLo.pcap
```
/bootflash/haIntCaptureLo.pcap      gen_context(system_u:object_r:polaris_netutils_data_t,s0)
/objstore(/.*)?                     gen_context(system_u:object_r:polaris_disk_objstore_t,s0)
```

# /config labels
```
/config(/.*)?                        gen_context(system_u:object_r:polaris_disk_config_t,s0)
/config/ssh(/.*)?                    gen_context(system_u:object_r:ssh_home_t,s0)
/config/ssh/ssh_host.*_key.pub      gen_context(system_u:object_r:sshd_key_t,s0)
/config/ssh/ssh_host.*_key          gen_context(system_u:object_r:sshd_key_t,s0)
```

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswlc.fc
No license file was found, but licenses were detected in source scan.
Copyright (c) 2018-2019 by Cisco Systems, Inc.
All rights reserved

WLC Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 0)
max_bay_map_set(`fp', `per_bay', 0)

in elastic scope each process has its own value
max_elastic_map_set(`rp', `elastic', BPROC_ODM, 1)
max_elastic_map_set(`cc', `elastic', BPROC_ODM, 1)
max_elastic_map_set(`fp', `elastic', BPROC_ODM, 1)
max_elastic_map_set(`rp', `elastic', BPROC_WNCD, 7)
max_elastic_map_set(`cc', `elastic', BPROC_WNCD, 7)
max_elastic_map_set(`fp', `elastic', BPROC_WNCD, 7)

max_elastic_ripc_map_set(`rp', `elastic', BPROC_ODM, 1)
max_elastic_ripc_map_set(`cc', `elastic', BPROC_ODM, 1)
max_elastic_ripc_map_set(`fp', `elastic', BPROC_ODM, 1)
max_elastic_ripc_map_set(`rp', `elastic', BPROC_WNCD, 7)
max_elastic_ripc_map_set(`cc', `elastic', BPROC_WNCD, 7)
max_elastic_ripc_map_set(`fp', `elastic', BPROC_WNCD, 7)

No license file was found, but licenses were detected in source scan.

# June 2017, Victor Kamensky
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariswebui, 1.0);

type polaris_webui_file_t;
files_type(polaris_webui_file_t)
polaris_pfile_type(polaris_webui_file_t)
polaris_process_domain_template(webui_lighttpd)
polaris_process_domain_template(webui)
gen_require("
type initrc_t;
')
manage_dirs_pattern(initrc_t, polaris_webui_file_t, polaris_webui_file_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswebui.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarismrmp, 1.0);

gen_require(' type polaris_cm_rp_t;')

polaris_btrace_data_manage(polaris_cm_rp_t)
polaris_crft_data_manage(polaris_cm_rp_t)
polaris_chasfs_manage(polaris_cm_rp_t)
polaris_tdlresolve_read(polaris_cm_rp_t)
polaris_tdlldb_list_dirs(polaris_cm_rp_t)
polaris_cpld_read(polaris_cm_rp_t)
polaris_lua_read(polaris_cm_rp_t)
polaris_flashlib_read(polaris_cm_rp_t)
polaris_flashlib_write(polaris_cm_rp_t)
#
# cm_rp opens log file to collect required RP, CC, FP and rommon details
# and write into /vol/harddisk/.inv/inv_log_file
# This file is accessed by crashinfo collecting script and others
type polaris_cm_rp_inv_log_file_t;
polaris_disk_type(polaris_cm_rp_inv_log_file_t)
polaris_cm_rp_inv_log_setup(polaris_cm_rp_t)

polaris_ripc_sman_ui_serv_connect(polaris_cm_rp_t)

cpld_dev_use(polaris_cm_rp_t)
lfts_dev_use(polaris_cm_rp_t)
proc_rmonbifo_read(polaris_cm_rp_t)
obfl_data_read(polaris_cm_rp_t)

db_tdlldb_dir_use(polaris_cm_rp_t)
# cm_rp needs read access to cpu identity
# /dev/cpu/0/msr
dev_read_cpuid(polaris_cm_rp_t)
allow polaris_cm_rp_t self:capability { sys_rawio dac_override chown sys_resource};

allow polaris_cm_rp_t self:process setsched;

# on ultra read eeprom through i2c
# type=AVC msg=audit(1479569571.044:3): avc: denied {getattr} for pid=5283 comm="cmand"
path="/sys/devices/i2c-0/i2c-1/1-0056/eeprom" dev="sysfs" ino=25556
scontext=system_u:system_r:polaris_cm_rp_t:s0 tcontext=system_u:object_r:sysfs_t:s0 tclass=file
# type=AVC msg=audit(1479569571.045:4): avc: denied {read write} for pid=5283 comm="cmand"
name="eeprom" dev="sysfs" ino=25556 scontext=system_u:system_r:polaris_cm_rp_t:s0
tcontext=system_u:object_r:sysfs_t:s0 tclass=file
dev_rw_sysfs(polaris_cm_rp_t)
polaris_ggpio_dev_read_write(polaris_cm_rp_t)

# accessing obfl files like /obfl/obfl_uptime_v2.log
polaris_bootflash_read(polaris_cm_rp_t)
polaris_obfl_data_manage(polaris_cm_rp_t)
corecmd_exec_shell(polaris_cm_rp_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_cm_rp_t)

# cman_data_chasfs_mgmt_eth_override (cman/rp/src/cman_data.c:1096) tries to do
# ioctl(sk, SIOCGIFHWADDR, &ifr) for "eth2", which is not present on ultra, but
# such ioctl in kernel triggers dev_load attempt in kernel. Since interface
# and module does exist anyway, it is OK to deny it
kernel_dontaudit_request_load_module(polaris_cm_rp_t)

# cmand creates udp socket to get interface hw address cmlib_if_config_addr
allow polaris_cm_rp_t self:udp_socket create_socket_perms;

# dynfg_setup.sh is started by cmand
polaris_dynfg_domtrans(polaris_cm_rp_t)
polaris_dynfg_tmp_read(polaris_cm_rp_t)
# on crankshaft cm_rp does init directly
polaris_dynfg_setup(polaris_cm_rp_t)

# denied { search read open } subject: polaris_cm_rp_t; object: polaris_disk_varied_t
# name="/" dev="sda5"; path="/varied"
polaris_disk_varied_manage(polaris_cm_rp_t)

#allow polaris_cm_rp_t polaris_udev_tmp_files_t:dir { read search };
polaris_udev_tmp_list_dirs(polaris_cm_rp_t)
# LOOK AT ME:/tmp/rp/chasfs/inventory has symbolic links back to
# /bootflash/core/modules and /bootflash/tracelogs/modules cman_inv_restart_init
# calls chasfs_properties_internal over this node and as result it tries to
# access those directories
polaris_core_file_search(polaris_cm_rp_t)
polaris_disk_bootflash_search(polaris_cm_rp_t)
polaris_btrace_persistent_data_search(polaris_cm_rp_t)

polaris_dyncfg_tmp_manage(polaris_cm_rp_t)

ifdef(`mcp_family',
polaris_scooby_dev_use(polaris_cm_rp_t)
# read/write /dev/ds3100 chr device
dev_rw_generic_chr_files(polaris_cm_rp_t)
polaris_spa_dev_use(polaris_cm_rp_t)
')

# temporary files created for repm in /tmp/replication
type polaris_cm_rp_tmp_t;
files_tmp_file(polaris_cm_rp_tmp_t)
gen_require(' type tmp_t;

)files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "sysctrl_i2c.lck")
files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "pfu_oirtime.lock")
files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "golden_boot")
files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "sr_message_debug.txt")
files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "ngwc_sudi_auth_done")
files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "codesign.txt")
polaris_cm_rp_tmp_manage(polaris_cm_rp_t)

logging_send_syslog_msg(polaris_cm rp_t)

# work with /dev/i2c devices
polaris_i2c_use(polaris_cm_rp_t)
dev_getattr_sysfs_fs(polaris_cm rp_t)

# /var files
gen_require(' type var_log_t;

)type polaris_cm_rp_var_log_t;
logging_log_file(polaris_cm_rp_var_log_t)
logging_log_filetrans(polaris_cm_rp_t, polaris_cm_rp_var_log_t, file, "obfl_uptime_v2.log")
manage_files_pattern(polaris_cm_rp_t, var_log_t, polaris_cm_rp_var_log_t)

# needed for "show platform hardware slot R0 eobc interface primary status"
kernel_read_network_state(polaris_cm_rp_t)

# show platform hardware slot R0 pcie status
# mcp_pcie_status_cmd.sh
# /bin/sh /usr/binos/conf/bexec.sh -c /usr/binos/conf/mcp_pcie_status_cmd.sh

polaris_utility_domain_template(pcie_status_cmd)
polaris_bexecute_domtrans(polaris_cm_rp_t)
polaris_bexecute_domain(polaris_pcie_status_cmd_t, polaris_pcie_status_cmd_exec_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_pcie_status_cmd_t)

# "lspci" needs access to files like /sys/devices/pci0000:00/0000:00:00.0/resource
dev_read_sysfs(polaris_pcie_status_cmd_t)
polaris_send_signal_to_bexecute(polaris_cm_rp_t)

# need write/getattr access for pipes like "pipe:[118396]"
polaris_cmrp_use_fifo(polaris_pcie_status_cmd_t)
corecmd_exec_bin(polaris_pcie_status_cmd_t)

# on utah need to get model info
optional_policy(
    polaris_dash_dev_use(polaris_cm_rp_t)
    polaris_nios_dev_use(polaris_cm_rp_t)
  )

#access to /dev/dash_fpga device on fugazi platform
ifdef(`fugazi_platform`,
    polaris_dash_dev_mcp_use(polaris_cm_rp_t)
  )

ifdef(`crankshaft_family`,
polaris_quack_dev_use(polaris_cm_rp_t)
  )

ifdef(`sparrow_platform`,
polaris_cm_cc_tmpfs_manage(polaris_cm_rp_t)
  )

ifdef(`blackheart_platform`,
polaris_cm_cc_tmpfs_manage(polaris_cm_rp_t)
  )
ifdef(`cabo_platform',`
  polaris_cm_cc_tmpfs_manage(polaris_cm_rp_t)
')

ifdef(`aventus_platform',`
  polaris_cm_cc_tmpfs_manage(polaris_cm_rp_t)
polaris_dio_dev_use(polaris_cm_rp_t)
')

ifdef(`qwlc_platform',`
polaris_quack_dev_use(polaris_cm_rp_t)
')

ifdef(`katar_platform',`
polaris_quack_dev_use(polaris_cm_rp_t)
')

ifdef(`wlc_family',`
  netutils_domtrans_ping(polaris_cm_rp_t)
')

ifdef(`ngwc_family',`
  # In cman_rp module fips/entropy component
  # calls cman_ngwc_tam_platform_get_act2_entropy() to
  # retrieve entropy from ACT2 chip.
polaris_act2_dev_use(polaris_cm_rp_t)

  # cman-rp init needs access to quack chip
  polaris_quack_dev_use(polaris_cm_rp_t)

  # read /proc/cmdline
  kernel_read_system_state(polaris_cm_rp_t)

  # on macallan and nyquist cman_rp needs to access /flash<#/lic0/sudi_cert_data_v3
  polaris_disk_license_read(polaris_cm_rp_t)

  # on macallan and starfleet cli "show firmware version lan_spi" triggers ethtool usage
  sysnet_domtrans_ifconfig(polaris_cm_rp_t)
')

# cman-rp needs to read /tmp/fed_post_result and /tmp/sm_post_result
# on ngwc platforms
optional_policy(`
polaris_fed_tmp_files_read(polaris_cm_rp_t)
')

optional_policy(`
polaris_sif_mgr_tmp_files_read(polaris_cm_rp_t)
`)
ifdef(`starfleet_platform',
    polaris_dmammap_dev_use(polaris_cm_rp_t)
')

ifdef(`nyquist_platform',
    polaris_ngwc_shm_manage(polaris_cm_rp_t)

# /dev/dmammap usage
polaris_dmammap_dev_use(polaris_cm_rp_t)

# /dev/remap_mem0 usage
polaris_remap_mem_dev_use(polaris_cm_rp_t)

files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "pm_post_result")
files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, dir, "microcode_update")
files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "mcu_upgrading")

# executes tar for microcode
allow polaris_cm_rp_t self:capability { fowner fsetid };
')

ifdef(`radium_platform',
    # /dev/remap_mem0 usage
    polaris_remap_mem_dev_use(polaris_cm_rp_t)
')

ifdef(`sumatra_platform',
    # /dev/remap_mem0 usage
    polaris_remap_mem_dev_use(polaris_cm_rp_t)

    # LOOK AT ME: After direct usage of /dev/mem is removed (CSCvw80796)
    polaris_dev_mem_use(polaris_cm_rp_t)
    # access huron FPGA
    polaris_huron_dev_use(polaris_cm_rp_t)
')

ifdef(`quake_platform',
    polaris_ngwc_shm_manage(polaris_cm_rp_t)

    # /dev/dmammap usage
    polaris_dmammap_dev_use(polaris_cm_rp_t)

    files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "pm_post_result")
    files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, dir, "microcode_update")

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6  721
files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "mcu_upgrading")
')

# LOOK AT ME: /dev/mem access restriction remove after
# CSCvm48950 is fixed using CSCvm48953
ifdef(`nyquist_platform',`
polaris_dev_mem_use(polaris_cm_rp_t)
')

# LOOK AT ME: /dev/mem access restriction remove after
# CSCvn64182 is fixed using CSCvn64184
ifdef(`quake_platform',`
polaris_dev_mem_use(polaris_cm_rp_t)
')

# CLI: "show platform hardware slot R0 xaui statistics"
# this results in cman (/usr/binos/bin/cmand) invoking
# "/bin/sh /usr/binos/conf/bexec.sh -c /usr/binos/conf/dash_fpga_xaui.py show".
# The python script dash_fpga_xaui.py runs in polaris_bexecute_t domain
# and as part of its functionality it needs to create an UDP socket and make an ioctl call.

polaris_utility_domain_template(dash_fpga_xaui)

polaris_bexecute_domain(polaris_dash_fpga_xaui_t, polaris_dash_fpga_xaui_exec_t)
polaris_cmrp_use_fifo(polaris_dash_fpga_xaui_t)
allow polaris_dash_fpga_xaui_t self:udp_socket { create ioctl }

# CLI: show plat soft cpu share
# - invokes functions in binos/tools/bin/cgroup_reports.sh
# - also cman_cli_show_cpu_share_cb in binos/cman/rp/src/cman_cli.c
# - allow open/read/search cgroup files like
#   /sys/fs/cgroup/cpu,cpuacct/iosxe_control_processes/cpu.shares

fs_read_cgroup_files(polaris_cm_rp_t)
fs_list_cgroup_dirs(polaris_cm_rp_t)

# on tsn need access to /dev/moka_fpga
optional_policy(`
polaris_mokafpga_dev_use(polaris_cm_rp_t)
')

optional_policy(`
# betelgeuse need access to /dev/sirius_fpga
polaris_sirius_fpga_dev_use(polaris_cm_rp_t)
# on tsn read access to /sys/devices/platform/moka_fpga
optional_policy(
    polaris_mokafpga_read(polaris_cm_rp_t)
)

optional_policy(
    polaris_tam_getattrs_tmp_dirs(polaris_cm_rp_t)
)

# on vwlc/macallan, cmand creates /tmp/hw_entropy
polaris_hw_entropy_create(polaris_cm_rp_t)

# on tsn need write access to
# sys/devices/platform/cpld/reg_rp_sku_register
# on starfleet need write access to
# sys/devices/platform/cpld/reg_fan_fault_shutdown
optional_policy(
    polaris_cpld_write(polaris_cm_rp_t)
)

# LOOK AT ME: /dev/mem access restriction
ifdef(`tsn_platform',`
    polaris_dev_mem_use(polaris_cm_rp_t)
')

# reads from, populates chasfs with values and deletes /tmp/package_biv_sums
polaris_kgv_data_manage(polaris_cm_rp_t)

optional_policy(
    polaris_quake_i2c_manage(polaris_cm_rp_t)
)

ifdef(`qwlc_platform',`
    # read/write /dev/ds3100 chr device
dev_rw_generic_chr_files(polaris_cm_rp_t)
')

ifdef(`katar_platform',`
    # read/write /dev/ds3100 chr device
dev_rw_generic_chr_files(polaris_cm_rp_t)
    # Read access to /tmp/ldwm_envelope file
    polaris_ldwm_envelope_read(polaris_cm_rp_t)
')

ifdef(`mcp_family',`
    # Read access to /tmp/ldwm_envelope file
polaris_ldw_envelope_read(polaris_cm_rp_t)

')

# /dev/luna_fpga on qwlc
optional_policy('polaris_luna_nbfpga_dev_use(polaris_cm_rp_t)
')

# open /dev/ttyS0
term_use_unallocated_ttys(polaris_cm_rp_t)

optional_policy('polaris_ngwc_scc_shm_manage(polaris_cm_rp_t)
')

ifdef('ngwc_family',
    # on nyquist in ngwc_update_member_config nvram_config is
    # copied from /tmp/chassis/local/rp/tam/00001.nvram_config
    polaris_nvram_manage(polaris_cm_rp_t)

    # CMAN needs to create nvram_config with the right label instead of bootflash_t
    gen_require('polaris_nvram_file_t;
        type polaris_disk_bootflash_t;
    ')
    filetrans_pattern(polaris_cm_rp_t, polaris_disk_bootflash_t, polaris_nvram_file_t, file, "nvram_config")
')

# CMANRP needs to create right label instead of bootflash_t
type polaris_user_file_t;
files_type(polaris_user_file_t);
polaris_bootflash_filetrans(polaris_cm_rp_t, polaris_user_file_t, file);
manage_files_pattern(polaris_cm_rp_t, polaris_disk_bootflash_t, polaris_user_file_t)

# on virtual platforms cman reads virtual sudi file /csl_p_0/vudi.pri
ifdef('vxe_family',
polaris_disk_csl_read(polaris_cm_rp_t)
')
ifdef('wlc_family',
polaris_disk_csl_read(polaris_cm_rp_t)
')

# from cman_util_chasfs_watch_stby_harddisk
polaris_udev_tmp_watch(polaris_cm_rp_t)

# watch read over /tmp/chassis/local/rp/tam by cman Nyquist board auth init
polaris_chasfs_watch_read(polaris_cm_rp_t)

# /dev/aikido access
polaris_aikido_dev_use(polaris_cm_rp_t)

# access SERDES /tmp/serdesasic_key_dir/
optional_policy(
    polaris_serdes_asic_key_tmp_manage(polaris_cm_rp_t)
)

# run /sbin/hwclock in its own domain
clock_domtrans(polaris_cm_rp_t)

ifdef('crankshaft_family',
    # modprobe sm_nim_adpt.ko for Switzer-CC
    modutils_domtrans_insmod(polaris_cm_rp_t)
    # /dev/sm_nim_adpt device files for Switzer-CC
    polaris_sm_nim_adpt_dev_use(polaris_cm_rp_t)

    # "show platform hardware subslot <slot/card> backplane statistics"
    # triggers ethtool with ifconfig_t using fifo_file (pipe) on polaris_cm_rp_t.
    gen_require('type ifconfig_t;
')

    polaris_cmrp_use_fifo(ifconfig_t)
)

polaris_iosd_vcpu_read(polaris_cm_rp_t)

################################################################################
# show platform hardware slot R0 fpga
# mcp_fpga_status_cmd.sh
# /bin/sh /usr/binos/conf/bexec.sh -c /usr/binos/conf/mcp_fpga_status_cmd.sh
################################################################################

polaris_utility_domain_template(fpga_status_cmd)

polaris_bexecute_domtrans(polaris_cm_rp_t)
polaris_bexecute_domain(polaris_fpga_status_cmd_t, polaris_fpga_status_cmd_exec_t)
polaris_cmrp_use_fifo(polaris_fpga_status_cmd_t)

auth_use_nsswitch(polaris_fpga_status_cmd_t)
corecmd_exec_bin(polaris_fpga_status_cmd_t)

# PLEASE LOOK AT ME: /sys/devices/platform/nios should have Cisco specific label
# read content under /sys/devices/platform/nios
dev_read_sysfs(polaris_fpga_status_cmd_t)

ifdef('sparrow_platform',
polaris_dio_dev_use(polaris_cm_rp_t)
ifdef(`cabo_platform',`
polaris_dio_dev_use(polaris_cm_rp_t)
')

ifdef(`starfleet_platform',`
polaris_fpga_upgrade_tmp_use(polaris_cm_rp_t)
')

type polaris_fpga_upgrade_tmp_t;
files_tmp_file(polaris_fpga_upgrade_tmp_t)
files_tmp_filetrans(polaris_cm_rp_t, polaris_fpga_upgrade_tmp_t, file, "fpga_upgrade")

#ifdef(`2kp_platform',`
# blzi device
polaris_blzi_dev_use(polaris_cm_rp_t)
')

#if cmn_rp needs read access to cpu identity
/dev/cpu/0/msr
dev_read_cpuid(polaris_cm_rp_t)

#if cmn_rp needs read/write access to cpu msr
/dev/cpu/0/msr
# following definition provides that
dev_rw_cpu_microcode(polaris_cm_rp_t)

type polaris_cmrp_nim_xxd_tmp_t;
files_tmp_file(polaris_cmrp_nim_xxd_tmp_t)
files_tmp_filetrans(polaris_cm_rp_t, polaris_cmrp_nim_xxd_tmp_t, file, "nim_xxd_present")
manage_files_pattern(polaris_cm_rp_t, polaris_cmrp_nim_xxd_tmp_t, polaris_cmrp_nim_xxd_tmp_t)

ifdef(`2kp_platform',`
# tamlib debug file access
polaris_tamlib_dbg_file_manage(polaris_cm_rp_t)
')

ifdef(`wlc_family',`
# tcpdump access for RP
# packet dump is stored in file /bootflash/haIntCaptureLo.pcap
	type polaris_netutils_data_t;
polaris_pfile_type(polaris_netutils_data_t)
gen_require(`
	type polaris_disk_bootflash_t;

type netutils_t;
')
filetrans_pattern(netutils_t, polaris_disk_bootflash_t, polaris_netutils_data_t, file, "haIntCaptureLo.pcap")
manage_files_pattern(netutils_t, polaris_netutils_data_t, polaris_netutils_data_t)

#if tcpdump access
netutils_run(polaris_cm_rp_t, system_r)

# pidof access
  dev_read_sysfs(polaris_cm_rp_t)
  kernel_read_system_state(polaris_cm_rp_t)
  domain_read_all_domains_state(polaris_cm_rp_t)

#/usr/sbin/ethtool access for show platform hardware slot x ha_port interface stats command
  sysnet_domtrans_ifconfig(polaris_cm_rp_t)
)

optional_policy(
polaris_ds31408_dev_use(polaris_cm_rp_t)
)

polaris_ddr_dev_use(polaris_cm_rp_t)

# allow /usr/sbin/smartctl to be operated on fsadm_exec_t
fstools_exec(polaris_cm_rp_t)

# allow access to /tmp/cmlib_eeprom_sim_smartctl.out
files_tmp_filetrans(polaris_cm_rp_t, polaris_cm_rp_tmp_t, file, "cmlib_eeprom_sim_smartctl.out")

# allow access to /dev/nvme*
dev_nvme_chr_files_manage(polaris_cm_rp_t)
dev_nvme_blk_files_manage(polaris_cm_rp_t)

#DB persistence
polaris_tdldbpersist_setup(polaris_cm_rp_t)
polaris_tmp_tdldb_persist_setup(polaris_cm_rp_t)

#code_sign_verify is started by cmand
polaris_code_verify_domtrans(polaris_cm_rp_t)

ifdef(`ngwc_family',`
# SELINUX Mismatch warning when doing power redundancy configuration commands
# Allow access /bootflash/nplusm-power
polaris_nplusm_power_manage(polaris_cm_rp_t)
)

ifdef(`crankshaft_family',`
# For USB disable feature, /sys/bus/usb/drivers/usb/*/authorized is accessed
gen_require(
type sysfs_t;
)
allow polaris_cm_rp_t sysfs_t:file create;
dev_manage_sysfs_dirs(polaris_cm_rp_t)
)
ifdef(`petra_platform',
#allow access to /dev/petra-fpga
polaris_iots_fpga_dev_use(polaris_cm_rp_t)
#allow access to /flash6/moncfg/cfg.dat
polaris_nvram_read(polaris_cm_rp_t)
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmrp.te
No license file was found, but licenses were detected in source scan.

dnl

dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
divert(-1)

include(`polaris_process.m4')
dnl Stub out plaris process
define(`polaris_process','')

dnl Stub out mqipc
define(`polaris_mqipc_service_server','')
define(`polaris_mqipc_service_client','')
define(`polaris_mqipc_service_server_elastic_client','')

dnl Stub out lipc
define(`polaris_lipc_service_server','')
define(`polaris_lipc_service_client','')

include(`polaris_ipc_ripc.m4')
include(`polaris_ipc_base_ripc_if.m4')

dnl Stub out non existent one
define(`polaris_websocket_service_server','')
define(`polaris_cipc_service_server','')

include(`polaris_max_scope.m4')

divert(0)dnl
#
# This is a generated file! Instead of modifying this file,
# modify proper platform TDL file.
#
### <summary>Polaris Platform Base IPC Policy Rules.</summary>
## <required val="true">
##      Needed for each polaris platform
## </required>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_base_if.m4
No license file was found, but licenses were detected in source scan.

```

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisplogd, 1.0);

gen_require(
   type polaris_plogd_t;
)

polaris_btrace_data_manage(polaris_plogd_t)
polaris_crft_data_manage(polaris_plogd_t)
polaris_chasfs Manage(polaris_plogd_t)
polaris_tdlresolve_read(polaris_plogd_t)
polaris_tdlldb_list_dirs(polaris_plogd_t)
polaris_cpld_read(polaris_plogd_t)
polaris_flashlib_read(polaris_plogd_t)

polaris_ripc_sman_ui_serv_connect(polaris_plogd_t)

# originally when box starts /dev/log is symbolic link to /run/systemd/journal/dev-log
# but latter plogd reset links to its own socket: make sure that we have proper
# transition
gen_require(
   type devlog_t;
      type syslogd_t;
     )
allow polaris_plogd_t devlog_t:sock_file manage_sock_file_perms;
allow polaris_plogd_t devlog_t:lnk_file manage_lnk_file_perms;
dev_filetrans(polaris_plogd_t, devlog_t, sock_file, "log")
# make sure that unix_dgram_socket got transitioned into syslogd_t
type_transition polaris_plogd_t polaris_plogd_t:unix_dgram_socket syslogd_t;
allow polaris_plogd_t syslogd_t:unix_dgram_socket { bind create read };

# autogen script misses connection between plogd
polaris_ripc_plog_serv_connect(polaris_plogd_t)
```
# why plogd needs dac_override capability?
allow polaris_plogd_t self:capability { dac_override ;
allow polaris_plogd_t self:capability2 block_suspend;

polaris_dyncfg_tmp_read(polaris_plogd_t)

# plogd calls journalctl -f to get system logs including our AVC messages
# plogd also signals running journalctl to manage the buffer queues
gen_require(''
type journalctl_t;
  ')
journalctl.domtrans(polaris_plogd_t)
allow polaris_plogd_t journalctl_t:process signal;

# should be moved into contrib journalctl.te? journalctl tries to read
# /proc/1/environ
gen_require(''
type journalctl_t;
  ')
init_read_state(journalctl_t)
allow journalctl_t self:capability sys_resource;
allow journalctl_t self:process setrlimit;

# plogd calls stdbuf to set up journalctl buffering
corecmd_exec_bin(polaris_plogd_t)

# writes into pman fifo stdout
polaris_use_btrace_fifo(journalctl_t)

# /dev/log is symbolic link to /run/systemd/journal/dev-log
# need ability to search in init_var_run_t /run/systemd
# some of subjects that use syslog may not have it
gen_require(''
  attribute syslog_client_type;
  ')
init_search_pid_dirs(syslog_client_type)
#plog_d calls journalctl to get system log including AVC message.
allow polaris_plogd_t journalctl_t:process signal;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisplogd.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polaristamsrp file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristamsrp.fc
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris ftm Policy Rules.</summary>


### <summary>
### Write ttm /var/run socket file
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### </param>
#
interface(`polaris_ftm_var_sock_write',
    gen_require(`
        type polaris_ftm_t;
        type polaris_ftm_var_run_t;
        type var_run_t;
        ')
    write_sock_files_pattern($1, var_run_t, polaris_ftm_var_run_t)
    allow $1 polaris_ftm_t:unix_stream_socket { connectto };
    ')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisftm.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/iptables.sh -- gen_context(system_u:object_r:polaris_iptabl_exec_t,s0)
/tmp/rp/iptbl -d gen_context(system_u:object_r:polaris_iptabl_tmp_t,s0)
/tmp/rp/iptbl/inot_fifo -p gen_context(system_u:object_r:polaris_iptabl_tmp_t,s0)

# in polaris we have xtables-multi at wrong location
/usr/bin/xtables-multi -- gen_context(system_u:object_r:iptables_exec_t,s0)

#fman (rp/fp) acl mgmt and iptbl modules dependency
/tmp/iptbl.v4 gen_context(system_u:object_r:polaris_iptabl_tmp_t,s0)
/tmp/iptbl.v6 gen_context(system_u:object_r:polaris_iptabl_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisiptbl.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris cpp_sp Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppsp.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisngwctblmgr file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwctblmgr.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
# dash_fpga_xaui.py is the backend python code for
# the cli "show platform hardware slot R0 xaui statistics"
/usr/bin/os/conf/dash_fpga_xaui.py --gen_context(system_u:object_r:polaris_dash_fpga_xaui_exec_t,s0)

# relabel /vol/harddisk/.inv
/vol/harddisk/.inv(/.*)? gen_context(system_u:object_r:polaris_cm_rp_inv_log_file_t,s0)
/vol/harddisk_internal/.inv(/.*)? gen_context(system_u:object_r:polaris_cm_rp_inv_log_file_t,s0)

# .inv dir is in /bootflash in Katar eWLC
/bootflash/.inv(/.*)? gen_context(system_u:object_r:polaris_cm_rp_inv_log_file_t,s0)

/usr/bin/os/conf/mcp_fpga_status_cmd.sh --gen_context(system_u:object_r:polaris_fpga_status_cmd_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmrp.fc
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris rrm_mgr Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrrmmgr.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris LIPC Policy Rules.</summary>

#############################################################
# LIPC policy
#############################################################
#### <summary>
#### Manage lipc files
#### </summary>
#### <param name="domain">
#### <summary>
#### Domain allowed access.
#### </summary>
#### </param>
#### <rolebase/>
#
interface('polaris_lipc_manage',`
  gen_require('`
  type polaris_lipc_t;

  manage_dirs_pattern($1, polaris_lipc_t, polaris_lipc_t)
  manage_files_pattern($1, polaris_lipc_t, polaris_lipc_t)
  manage_link_files_pattern($1, polaris_lipc_t, polaris_lipc_t)
  manage_fifo_files_pattern($1, polaris_lipc_t, polaris_lipc_t)
  manage_socket_files_pattern($1, polaris_lipc_t, polaris_lipc_t)
')

#### <summary>
#### Getattr of lipc files directories
#### </summary>
#### <param name="domain">
#### <summary>
#### Domain allowed access.
#### </summary>
#### </param>
#### <rolebase/>
#
interface('polaris_lipc_getattr',`
  gen_require('`
  type polaris_lipc_t;

  getattr_dirs_pattern($1, polaris_lipc_t, polaris_lipc_t)
  getattr_files_pattern($1, polaris_lipc_t, polaris_lipc_t)
  getattr_link_files_pattern($1, polaris_lipc_t, polaris_lipc_t)
  getattr_fifo_files_pattern($1, polaris_lipc_t, polaris_lipc_t)
  getattr_socket_files_pattern($1, polaris_lipc_t, polaris_lipc_t)
')

#### <summary>
## Create lipc file

```c
interface(`polaris_lipc_create_name',
gen_require(
    type polaris_lipc_t;
    type_transition $1 polaris_lipc_t : sock_file $2 $3;
    manage_sock_files_pattern($1, polaris_lipc_t, $2)
    polaris_socketat_nsfs_read($1)
    # not specific enough
    # type_transition $1 $1 : unix_stream_socket $2;
    # allow $1 $2:unix_stream_socket { listen accept bind create write read };
    ')
```

## Write lipc file

```c
interface(`polaris_lipc_write_name',
gen_require(
    type polaris_lipc_t;
    type_transition $1 polaris_lipc_t : sock_file $2 $3;
    manage_sock_files_pattern($1, polaris_lipc_t, $2)
    polaris_socketat_nsfs_read($1)
    # not specific enough
    # type_transition $1 $1 : unix_stream_socket $2;
    # allow $1 $2:unix_stream_socket { listen accept bind create write read };
    ')
```
## Domain of owner of lipc channel.
## </summary>
## </param>
#
interface('polaris_lipc_write',''
gen_require(''
type polaris_lipc_t;
')
    write_sock_files_pattern($1, polaris_lipc_t, $2)
    allow $1 $3:unix_stream_socket { connectto };

    polaris_socketat_nsfs_read($1)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislipc.if
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define('polaris_lipc_service_server_aux',''
    type $1;
    files_type($1)
    polaris_lipc_$2_create_name($3))

define('polaris_lipc_service_server_full',''
polaris_lipc_service_server_aux(lipc_label($1), lipc_stem($1), process_label($2))
')

define('polaris_lipc_service_server',''
ifelse(lipc_type_map($1), ' ', 'polaris_lipc_service_server_full($1, $2)'
    lipc_type_map_set(lipc_label($1), process_label($2))
')

define('polaris_lipc_service_client_aux',''
polaris_lipc_$2_write($3, $4))

define('polaris_lipc_service_client',''
polaris_lipc_service_client_aux(lipc_label($1), lipc_stem($1), process_label($2), lipc_type_map(lipc_label($1)))
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_lipc_te.m4
No license file was found, but licenses were detected in source scan.

# September 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisbtman, 1.0);

gen_require('type polaris_btman_t;')

polaris_crft_data_manage(polaris_btman_t)
polaris_chasfs_manage(polaris_btman_t)
polaris_tdlresolve_read(polaris_btman_t)
polaris_tdlldb_list_dirs(polaris_btman_t)
polaris_cpld_read(polaris_btman_t)
polaris_flashlib_read(polaris_btman_t)

polaris_ripe_sman_ui_serv_connect(polaris_btman_t)

polaris_db_tdlldb_dir_use(polaris_btman_t)

polaris_bexecute_domtrans(polaris_btman_t)

# script starts rsync with mcp_chvrf.sh
polaris_chvrf_domtrans(polaris_btman_t)
polaris_send_signal_to_bexecute(polaris_btman_t)

corecmd_exec_bin(polaris_btman_t)
corecmd_exec_shell(polaris_btman_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_btman_t)

allow polaris_btman_t self:capability { dac_override fsetid }:

polaris_cpld_read(polaris_btman_t)

# operate on all btrace files
polaris_btrace_data_manage_all(polaris_btman_t)

# bman operated on /tmp/tmppub files
type polaris_btrace_tmppub_t;
files_tmp_file(polaris_btrace_tmppub_t)
polaris_systemd_tmpfiles_tm_filetrans(polaris_btrace_tmppub_t, dir, "tmppub")
filetrans_pattern(polaris_btman_t, polaris_btrace_tmppub_t, polaris_btrace_tmppub_t, { file dir })
manage_files_pattern(polaris_btman_t, polaris_btrace_tmppub_t, polaris_btrace_tmppub_t)
manage_dirs_pattern(polaris_btman_t, polaris_btrace_tmppub_t, polaris_btrace_tmppub_t)

polaris_persistent_read(polaris_btman_t)

# in purge_old_core_files_from_harldisk function of btrace_rotate_util.c
# script removes outdated core files, so it needs read/write permission
# to polaris_core_file_t files.
polaris_core_file_manage(polaris_btman_t)

fs_getattr_xattr_fs(polaris_btman_t)

# btman checks for presence of /tmp/udev/etc/udev/harddisk
# through hwutil_is_harddisk_present function of hwutil-common.sh
polaris_udev_tmp_list_dirs(polaris_btman_t)

# when /bootflash or /harddisk are 100% full
allow polaris_btman_t self:capability sys_resource;

# access to /tmp/sw/boot/dmesg
polaris_boot_tmp_read(polaris_btman_t)

polaris_create_ldb_domtrans(polaris_btman_t)

# btman calls update_resolver_luid_paths which eventually calls open_brand function for
# given polaris executable (build_crdu_luid_file_paths, bcrdu_get_proc_path_internal,
# brand_type_string)
polaris_read_exec_domain(polaris_btman_t)

# btman create transitional files in /tmp directory
type polaris_btman_tmp_t;
files_tmp_file(polaris_btman_tmp_t)
files_tmp_filetrans(polaris_btman_t, polaris_btman_tmp_t, file)
manage_files_pattern(polaris_btman_t, polaris_btman_tmp_t, polaris_btman_tmp_t)

# use syslog
logging_send_syslog_msg(polaris_btman_t)

# btman unlink /tmp/rp/pvp/work/btman_first_inst
polaris_pvp_manage_tmp_files(polaris_btman_t)

# operate on btrace file in /bootflash
polaris_btrace_persistent_data_manage(polaris_btman_t)

gen_require(“}
type polaris_btrace_data_t;

polaris_bootflash_filetrans(polaris_btman_t, polaris_btrace_data_t, dir, "tracelogs")
polaris_harddisk_filetrans(polaris_btman_t, polaris_btrace_data_t, dir, "tracelogs")
polaris_crashinfo_filetrans(polaris_btman_t, polaris_btrace_data_t, dir, "tracelogs")
polaris_bootflash_filetrans(polaris_btman_t, polaris_btrace_data_t, dir, "tan")
polaris_harddisk_filetrans(polaris_btman_t, polaris_btrace_data_t, dir, "tan")

# btman creates /tmp/rp/pvp/work/btman_first_inst directory in is_first_incarnation
# function called by btrace_rotate_init
polaris_pvp_manage_tmp_files(polaris_btman_t)

*******************************************************************************
# This block is policies for "request platform software system shell" CLI

# /tmp/sw/0/0/0/0/rp_security/mount/usr/binos/bin/btman -f rp
#       -s /tmp/rp/trace/stage -w /tmp/rp/trace
# - needs to read/getattr on
#   /tmp/sw/mount/*universalk9.*.SSA.pkg/usr/binos/sbin/in.telnetd
gen_require(
    type telnetd_exec_t;
')
allow polaris_btman_t telnetd_exec_t:file { getattr open read }

# btman establishes leases for trace files
allow polaris_btman_t self:capability lease;

# dump_btrace_meta walks all files with nftw
files_getattr_all_files(polaris_btman_t)
files_getattr_all_dirs(polaris_btman_t)
files_read_all_symlinks(polaris_btman_t)
files_list_non_security(polaris_btman_t)
files_read_all_files(polaris_btman_t)
files_mmap_all_files(polaris_btman_t)

# btman exports data through http protocol btm_trigger_export and schedule_newfile_export
corenetsTCPConnectHttpPort(polaris_btman_t)

# LOOK AT ME: incorrect iosd-tps service_def. It should be renamed
# iosd-tps_socket-b0 in all platform.idl files. Remove the following
# policy when CSCVp89498 is fixed.
gen_require(
    type polaris_lipc_t;
    type polaris_pman_t;
')
polaris_lipc_write(polaris_btman_t, polaris_lipc_t, polaris_pman_t)

# btman manages some persistent crashinfo files
polaris_disk_crashinfo_manage(polaris_btman_t)

#DB persistence
polaris_tlddbpersist_setup(polaris_btman_t)

polaris_tmp_tlddb_persist_setup(polaris_btman_t)

polaris_btrace_data_watch(polaris_btman_t)

# dump_btrace_meta writes to /tmp/binary_trace.1605747053/.pkginfo
polaris_install_tmp/manage(polaris_btman_t)

#allow polaris_btman_t access to polaris_cm_rp semaphore
polaris_cm_rp_sem_use(polaris_btman_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbtman.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisfmanrp, 1.0);

gen_require(' type polaris_fman_rp_t; ')

################################################################################
# mqipc manual, one that missing in platform tdl file
################################################################################

# mq.-fman-log-bay0-peer0
type polaris_fman_log_bay0_peer0_mqipc_t;
polaris_mqipc_type(polaris_fman_log_bay0_peer0_mqipc_t)

# mq.-fman-log-bay0-peer1
type polaris_fman_log_bay0_peer1_mqipc_t;
polaris_mqipc_type(polaris_fman_log_bay0_peer1_mqipc_t)

# mq.-fman-log-bay0-peer2
type polaris_fman_log_bay0_peer2_mqipc_t;
polaris_mqipc_type(polaris_fman_log_bay0_peer2_mqipc_t)
# mq.-fman-log-bay0-peer3
  type polaris_fman_log_bay0_peer3_mqipc_t;
polaris_mqipc_type(polaris_fman_log_bay0_peer3_mqipc_t)

# mq.-fman-log-bay0-peer4
  type polaris_fman_log_bay0_peer4_mqipc_t;
polaris_mqipc_type(polaris_fman_log_bay0_peer4_mqipc_t)

# mq.-fman-log-bay0-peer5
  type polaris_fman_log_bay0_peer5_mqipc_t;
polaris_mqipc_type(polaris_fman_log_bay0_peer5_mqipc_t)

# mq.-fman-log-bay0-peer6
  type polaris_fman_log_bay0_peer6_mqipc_t;
polaris_mqipc_type(polaris_fman_log_bay0_peer6_mqipc_t)

# mq.-fman-log-bay0-peer7
  type polaris_fman_log_bay0_peer7_mqipc_t;
polaris_mqipc_type(polaris_fman_log_bay0_peer7_mqipc_t)

# mq.-fman-log-bay0-peer8
  type polaris_fman_log_bay0_peer8_mqipc_t;
polaris_mqipc_type(polaris_fman_log_bay0_peer8_mqipc_t)

  polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fman_log_bay0_peer0_mqipc_t, fman-log-bay0-peer0)
polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fman_log_bay0_peer1_mqipc_t, fman-log-bay0-peer1)
polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fman_log_bay0_peer2_mqipc_t, fman-log-bay0-peer2)
polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fman_log_bay0_peer3_mqipc_t, fman-log-bay0-peer3)
polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fman_log_bay0_peer4_mqipc_t, fman-log-bay0-peer4)
polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fman_log_bay0_peer5_mqipc_t, fman-log-bay0-peer5)
polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fman_log_bay0_peer6_mqipc_t, fman-log-bay0-peer6)
polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fman_log_bay0_peer7_mqipc_t, fman-log-bay0-peer7)
polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fman_log_bay0_peer8_mqipc_t, fman-log-bay0-peer8)

  polaris_btrace_data_manage(polaris_fman_rp_t)
polaris_crft_data_manage(polaris_fman_rp_t)
polaris_chasfs Manage(polaris_fman_rp_t)
polaris_tdlresolve_read(polaris_fman_rp_t)
polaris_tdlldb_list_dirs(polaris_fman_rp_t)
polaris_cpld_read(polaris_fman_rp_t)
polaris_flashlib_read(polaris_fman_rp_t)
polaris_lua_read(polaris_fman_rp_t)

  polaris_ripc_sman_ui_serv_connect(polaris_fman_rp_t)

  polaris_db_tdlldb_dir_use(polaris_fman_rp_t)

ifdef(`nyquist_platform',

gen_require(
    type polaris_bt_logger_fman_rp_mqipc_t;
    
    # fman_rp may start first and create this mqipc channel
    polaris_mqipc_create_name(polaris_fman_rp_t, polaris_bt_logger_fman_rp_mqipc_t, bt_logger_fman-rp)
)

allow polaris_fman_rp_t self:udp_socket { create ioctl };
allow polaris_fman_rp_t self:capability { dac_override };
allow polaris_fman_rp_t self:capability2 block_suspend;

# not clear why fman_rp tries to load netdev-mgmtbr kernel module
# it does not exist on ultra anyway
# type=AVC msg=audit(1478126742.967:98): avc: denied { module_request } for pid=18020 comm="fman_rp"
# kmod="netdev-mgmtbr" scontext=system_u:system_r:polaris_fman_rp_t:s0
tcontext=system_u:system_r:kernel_t:s0 tclass=system
kernel_request_load_module(polaris_fman_rp_t)
polaris_socketat_nsfs_read(polaris_fman_rp_t)
polaris_dyncfg_tmp_read(polaris_fman_rp_t)

# socketat usage from fman_punt_port_mapping_init for AF_NETLINK, SOCK_DGRAM
polaris_lfts_dev_use(polaris_fman_rp_t)
allow polaris_fman_rp_t self:netlink_tcpdiag_socket {create nlmsg_read };

# fman_rp tries to write to systemd journal when a peer is stuck
# introduced by CSCvt19772
logging_send_syslog_msg(polaris_fman_rp_t)

optional_policy(
    #fman-rp creates tmp files in acl-mgmt workflow.
polaris_fman_acl_iptbl_tmp_file(polaris_fman_rp_t)
)

# manually create mqipc channel: missing in TDL
type polaris_fmrp2fpm_mqipc_t;
polaris_mqipc_type(polaris_fmrp2fpm_mqipc_t)
polaris_mqipc_create_name(polaris_fman_rp_t, polaris_fmrp2fpm_mqipc_t, fmrp2fpm_vulcan_mqipc)

optional_policy(
polaris_fpm2fmrp_mqipc_use(polaris_fman_rp_t)
)
polaris_issu_tmp_files_read(polaris_fman_rp_t)
polaris_install_tmp_read(polaris_fman_rp_t)
policy_module(polarisrifmgr, 1.0);

gen_require('  
    type polaris_rif_mgr_t;
  ')

polaris_btrace_data_manage(polaris_rif_mgr_t)  
polaris_crft_data_manage(polaris_rif_mgr_t) 
polaris_chasfs Manage(polaris_rif_mgr_t) 
polaris_tdlresolve_read(polaris_rif_mgr_t)  
polaris_tdlldb_list_dirs(polaris_rif_mgr_t)  
polaris_cpld_read(polaris_rif_mgr_t)  
polaris_lua_read(polaris_rif_mgr_t) 
polaris_flashlib_read(polaris_rif_mgr_t)  
polaris_lfts_dev_use(polaris_rif_mgr_t) 
logging_send_syslog_msg(polaris_rif_mgr_t)

polaris_ripc_sman_ui_serv_connect(polaris_rif_mgr_t)

allow polaris_rif mgr_t self: capability { sys_nice dac_override }; 
allow polaris_rif mgr_t self: process { setsched }; 
# open /dev/ttyS0 console in sco_sys init sw params
term_use_unallocated ttys(polaris_rif mgr_t)

# work with /dev/hanet device
polaris_hanet_dev_use(polaris_rif_mgr_t)

# update/read chassis serial numer /csl_p_0/vudi.pri
polaris_disk_csl_manage(polaris_rif_mgr_t)

# monitors native interfaces flap over /proc and netlink
kernel_read_network_state(polaris_rif mgr_t) 
allow polaris_rif mgr_t self:netlink_route_socket rw_netlink_socket_perms; 
allow polaris_rif mgr_t self:unix_dgram_socket create_socket_perms;

# pidof and /proc usage
dev_read_sysfs(polaris_rif_mgr_t)
kernels_read_system_state(polaris_rif_mgr_t)
domain_read_all_domains_state(polaris_rif_mgr_t)
corecmd_exec_bin(polaris_rif_mgr_t)

kernels_dontaudit_request_load_module(polaris_rif_mgr_t)
# rifmgr creates udp socket to get interface flags in rif_rp_init
allow polaris_rif_mgr_t self:udp_socket create_socket_perms;
corenet_tcp_bind_polaris_rif_mgr_port(polaris_rif_mgr_t)
corenet_tcp_connect_polaris_rif_mgr_port(polaris_rif_mgr_t)
corenet_udp_bind_polaris_rif_mgr_port(polaris_rif_mgr_t)
corenet_udp_bind_generic_node(polaris_rif_mgr_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrifmgr.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris stack_mgr Policy Rules.</summary>
########################################
## <summary>
## 	Read and write all stack mgr's fifo file, used as
## 	standard input/output.
## </summary>
## </param>
## <rolecap/>
#
interface(`polaris_use_stack_mgr_fifo',
gen_require(`
type polaris_stack_mgr_t;
'})

write_fifo_files_pattern($1, polaris_stack_mgr_t, polaris_stack_mgr_t)
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisstackmgr.if
No license file was found, but licenses were detected in source scan.

# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/tmp/.DMI_FIFO                      gen_context(system_u:object_r:polaris_dmi_vtyserverutild_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmivtyserverutild.fc
No license file was found, but licenses were detected in source scan.

# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris cm_cc Policy Rules.</summary>

#<summary>Polars cm_cc Policy Rules.</summary>
#<summary>
## Execute cmand_fp in the polaris_cm_fp_t domain.
## </summary>
## <param name="domain">
## Domain allowed to transition.
## </param>
#
interface(`polaris_cm_cc_domtrans',`
gen_require(`
type polaris_cm_cc_t, polaris_cm_cc_exec_t;
')

corecmd_search_bin($1)
domtrans_pattern($1, polaris_cm_cc_exec_t, polaris_cm_cc_t)
')

## <summary>
## Manage cm_cc_tmpfs files.
## </summary>
## Summary

### <summary>
Domain allowed access.
</summary>

### </param>

```c
interface('polaris_cm_cc_tmpfs_manage',
gen_require('type polaris_cm_cc_tmpfs_t;
')

manage_files_pattern($1, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)
mmap_files_pattern($1, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)
')

#################################
## Summary
## Check presence and unlink /tmp/nim_xxd_present file created by cman cc.
## <summary>
## Domain allowed access.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolecap/>

```c
interface('polaris_nim_xxd_tmp_open_unlink',
gen_require('type polaris_nim_xxd_tmp_t;
')

allow $1 polaris_nim_xxd_tmp_t:file { open unlink }
')

```

```

No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

```c
## Summary>Polaris LUA Policy Rules</summary>
```
---

# Polaris Lfts

---

```c
### <summary>
### Work (read, write, ioctl) with /dev/dev_lfts device.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
###
interface('polaris_lfts_dev_use',
  gen_require(''
    type device_t;
    type polaris_lfts_device_t;
    ')
  write_chr_files_pattern($1, device_t, polaris_lfts_device_t)
  read_chr_files_pattern($1, device_t, polaris_lfts_device_t)
 ')
```

---

No license file was found, but licenses were detected in source scan.

---

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

```c
### <summary>Polaris ofa Policy Rules.</summary>
```

---

No license file was found, but licenses were detected in source scan.

---

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
#sparrow, blackheart

policy_module(polarisodmproxy, 1.0);

gen_require(`
    type polaris_odm_proxy_t;
')

polaris_btrace_data_manage(polaris_odm_proxy_t)
polaris_crft_data_manage(polaris_odm_proxy_t)
polaris_chasfs_manage(polaris_odm_proxy_t)
polaris_tdlresolve_read(polaris_odm_proxy_t)
polaris_tdldb_list_dirs(polaris_odm_proxy_t)
polaris_cpld_read(polaris_odm_proxy_t)
polaris_lua_read(polaris_odm_proxy_t)
polaris_flashlib_read(polaris_odm_proxy_t)

polaris_ripc_sman_ui_serv_connect(polaris_odm_proxy_t)
polaris_db_tdldb_dir_use(polaris_odm_proxy_t)

#allow to setrlimit
allow polaris_odm_proxy_t self:capability sys_resource;
allow polaris_odm_proxy_t self:process setrlimit;
allow polaris_odm_proxy_t self:capability dac_override;

polaris_odm_clnt2svr_mqipc_create(polaris_odm_proxy_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisodmproxy.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris issu_monitor Policy Rules.</summary>
########################################
## <summary>
##   Execute issumonitor in the polaris_issu_monitor domain.
## </summary>
## <param name="domain">
##   <summary>
##   Domain allowed to transition.
##   </summary>
## </param>

# interface('polaris_issu_monitor_domtrans',
  gen_require(
    type polaris_issu_monitor_t, polaris_issu_monitor_exec_t;
  )
)

domtrans_pattern($1, polaris_issu_monitor_exec_t, polaris_issu_monitor_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisissumonitor.if
No license file was found, but licenses were detected in source scan.
dnl
May 2018, Victor Kamensky

dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved

dnl Place holder to let selinux-policy makefile know that this module
dnl is autigenerated, but we have different rules for it

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisplatformipcauto.fc.in
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisplatformdbauto.te.in
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisplatformdbauto.if.in
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/autopolarisplatformipcbase.te.in
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisplatformdbauto.fc.in
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisplatformipcauto.te.in
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/autopolarisplatformipcbase.if.in
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisplatformipcauto.if.in

No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polaris_keyman, 1.0);

gen_require(
    type polaris_keyman_t;
)

polaris_btrace_data_manage(polaris_keyman_t)
polaris_crtft_data_manage(polaris_keyman_t)
polaris_chasfs_manage(polaris_keyman_t)
polaris_tdlresolve_read(polaris_keyman_t)
polaris_dlddb_list_dirs(polaris_keyman_t)
polaris_flashlib_read(polaris_keyman_t)
polaris_ripc_sman_ui_serv_connect(polaris_keyman_t)

allow polaris_keyman_t self:capability net_admin;
# keyman utilizes secure memory via ciscoss libcrypto.so (mlock)
allow polaris_keyman_t self:capability ipc_lock;
polaris_cpdl_read(polaris_keyman_t)

# __get_nprocs opens /sys/devices/system/cpu/online
ifdef('quake_platform',
    dev_read_sysfs(polaris_keyman_t)
)

# __get_nprocs opens /sys/devices/system/cpu/online
ifdef('supernova_platform',
    dev_read_sysfs(polaris_keyman_t)
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariskeyman.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
#
# polaristamdrp file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristamdrp.fc
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#
#
# /bootflash labels

/bootflash(/.*)? gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
/bootflash/ssh(/.*)? gen_context(system_u:object_r:ssh_home_t,s0)
/bootflash/ssh/ssh_host.*_key\.pub gen_context(system_u:object_r:sshd_key_t,s0)
/bootflash/ssh/ssh_host.*_key gen_context(system_u:object_r:sshd_key_t,s0)
/bootflash/tracelogs(/.*)? gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/bootflash/tan(/.*)? gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/bootflash/core(/.*)? gen_context(system_u:object_r:polaris_core_file_t,s0)
/bootflash/debug.conf gen_context(system_u:object_r:polaris_debug_conf_t,s0)
/bootflash/packages.conf gen_context(system_u:object_r:polaris_packages_conf_t,s0)

# /vol/bootflash4 labels

/vol/bootflash4(/.*)? gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
/vol/bootflash4/csl_p_0(/.*)? gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
/vol/bootflash4/csl_p_1(/.*)? gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
# /bootflash
/csl_s_0(/.*)? gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)
/csl_s_1(/.*)? gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)
/obfl(/.*)? gen_context(system_u:object_r:polaris_obfl_data_t,s0)

# /harddisk labels
/vol/harddisk(/.*)? gen_context(system_u:object_r:polaris_disk_harddisk_t,s0)
/vol/harddisk_internal(/.*)? gen_context(system_u:object_r:polaris_disk_harddisk_t,s0)
/vol/harddisk_tracelogs(/.*)? gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/vol/harddisk_tan(/.*)? gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/vol/harddisk_core(/.*)? gen_context(system_u:object_r:polaris_core_file_t,s0)
/vol/harddisk_debug.conf gen_context(system_u:object_r:polaris_debug_conf_t,s0)

# on ng persistent storage arranged differently
/csl_p_0(/.*)? gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
/csl_p_1(/.*)? gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
/csl_s_0(/.*)? gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)
/csl_s_1(/.*)? gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)
/obfl(/.*)? gen_context(system_u:object_r:polaris_obfl_data_t,s0)

# /disk0 labels
/vol/disk0(/.*)? gen_context(system_u:object_r:polaris_diskBootflash_t,s0)

# on ng persistent storage arranged differently
/htdp[0-9]* -c gen_context(system_u:object_r:polaris_htdp_device_t,s0)

# spa devices handled by sys_platform driver
/dev/spa0 -c gen_context(system_u:object_r:polaris_spa_device_t,s0)
/dev/spa1 -c gen_context(system_u:object_r:polaris_spa_device_t,s0)
/dev/spa2 -c gen_context(system_u:object_r:polaris_spa_device_t,s0)
/dev/spa3 -c gen_context(system_u:object_r:polaris_spa_device_t,s0)
/dev/iocp0 -c gen_context(system_u:object_r:polaris_spa_device_t,s0)

# htdp devices
/dev/epa[0-9]* -c gen_context(system_u:object_r:polaris_epa_device_t,s0)
/dev/epactrl[0-9]* -c gen_context(system_u:object_r:polaris_epa_device_t,s0)

# spa device on ng
/dev/luna_fpga -c gen_context(system_u:object_r:polaris_luna_fpga_device_t,s0)
/dev/luna_mbfpga -c gen_context(system_u:object_r:polaris_luna_mbfpga_device_t,s0)
# /dev/dash_fpga device on fugazi(mcp)
/dev/dash_fpga -c gen_context(system_u:object_r:polaris_dash_device_t,s0)
/dev/dash_fpga_cc0 -c gen_context(system_u:object_r:polaris_dash_device_t,s0)

# /dev/astro on asr1k(mcp)
/dev/astro -c gen_context(system_u:object_r:polaris_astro_device_t,s0)

# /dev/oob_evfc on asr1k(mcp)
/dev/oob_evfc -c gen_context(system_u:object_r:polaris_oob_evfc_device_t,s0)

# /dev/cpp_il on asr1k(mcp)
/dev/cpp_il -c gen_context(system_u:object_r:polaris_cpp_il_device_t,s0)

/dev/icp_adf_ctl -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev0_csr -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev0_ring -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev_mem -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev_mem_page -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev_processes -c gen_context(system_u:object_r:polaris_icp_device_t,s0)

/dev/ds31408 -c gen_context(system_u:object_r:polaris_ds31408_device_t,s0)
/dev/cbdma -c gen_context(system_u:object_r:polaris_cbdma_device_t,s0)
/dev/cpp_htdp -c gen_context(system_u:object_r:polaris_cpp_htdp_device_t,s0)
/dev/n2_device -c gen_context(system_u:object_r:polaris_n2_device_t,s0)
/dev/cy2213 -c gen_context(system_u:object_r:polaris_cy2213_device_t,s0)
/dev/vega -c gen_context(system_u:object_r:polaris_vega_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismcp.fc
No license file was found, but licenses were detected in source scan.

dnl
 dnl April 2018, Victor Kamensky
 dnl
 dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define(`max_bay_map', `defn(format(``max_bay_map[%s-%s]', `$1', `$2'))')
define(`max_bay_map_set', `define(format(``max_bay_map[%s-%s]', `$1', `$2', `$3'))')

define(`max_elastic_map', `defn(format(``max_elastic_map[%s-%s-%s]', `$1', `$2', `$3', `$4'))')
define(`max_elastic_map_set', `define(format(``max_elastic_map[%s-%s-%s]', `$1', `$2', `$3', `$4'))')

define(`max_scope_map', `ifelse($2, `elastic', `max_elastic_map($1, $2, $3)', `max_bay_map($1, $2)')')

dnl RICP scope handling
define(`min_bay_ripc_map', `defn(format(``min_bay_ripc_map[%s-%s]''', `$1', `$2')))
define(`min_bay_ripc_map_set', `define(format(``min_bay_ripc_map[%s-%s]''', `$1', `$2', `$3')))

define(`min_elastic_ripc_map', `defn(format(``min_elastic_ripc_map[%s-%s-%s]''', `$1', `$2', `$3')))
define(`min_elastic_ripc_map_set', `define(format(``min_elastic_ripc_map[%s-%s-%s]''', `$1', `$2', `$3', `$4')))

define(`min_scope_ripc_map_aux', `ifelse($2, `elastic', `min_elastic_ripc_map($1, $2, $3)', `min_bay_ripc_map($1, $2)')
define(`min_scope_ripc_map', `ifelse(min_scope_ripc_map_aux($1, $2, $3), `', 0, min_scope_ripc_map_aux($1, $2, $3))')

define(`max_bay_ripc_map', `defn(format(``max_bay_ripc_map[%s-%s]''', `$1', `$2')))
define(`max_bay_ripc_map_set', `define(format(``max_bay_ripc_map[%s-%s]''', `$1', `$2', `$3')))

define(`max_elastic_ripc_map', `defn(format(``max_elastic_ripc_map[%s-%s-%s]''', `$1', `$2', `$3')))
define(`max_elastic_ripc_map_set', `define(format(``max_elastic_ripc_map[%s-%s-%s]''', `$1', `$2', `$3', `$4')))

define(`max_scope_ripc_map_aux', `ifelse($2, `elastic', `max_elastic_ripc_map($1, $2, $3), `max_bay_ripc_map($1, $2)')
define(`max_scope_ripc_map', `ifelse(max_scope_ripc_map_aux($1, $2, $3), `', 0, max_scope_ripc_map_aux($1, $2, $3))')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_max_scope.m4
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris periodic Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisperiodic.if
No license file was found, but licenses were detected in source scan.

#
# December 2019, Victor Kamensky
#
# Copyright (c) 2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris service_mgr Policy Rules.</summary>
policy_module(polariscommon, 1.0);

# Polaris common

# domain that holds all polaris processes
attribute polaris_domain;

# domain that holds all polaris processes executables
attribute polaris_exec_domain;

# domain that holds all polaris processes plus few base types that operates on
# during system start, like initrc_t and unconfined_service_t. Please remove
# unconfined types latter.
attribute polaris_extended_domain;

gen_require(`
    type unconfined_t;
    type unconfined_service_t;
    type initrc_t;
    type init_t;
')

typeattribute unconfined_t polaris_extended_domain;
typeattribute unconfined_service_t polaris_extended_domain;
typeattribute initrc_t polaris_extended_domain;
typeattribute init_t polaris_extended_domain;

# common permissions that are safe to grant and hard to root cause.
# these permissions may need to be turned off during development or tightened
# in future releases
ngen_require(`
    attribute domain;
')

# sys_resource denial is seen due to disk full issue
# and possibly FD exceeding limit
allow domain self:capability sys_resource;
# When management interface is enabled for development Polaris device can be
# access by telnet, which directly drops into shell. It would be desirreably
# to remove telnet functionality att all. But for now we need transition
# rule to get shell running in unconfined domain.

```
gen_require('  
    type telnetd_t; 
')
```

```
unconfined_shell_domtrans(telnetd_t)
```

# This block is policies for "request platform software system shell" CLI.
# Execute bexecute in polaris_bexecute domain.

```
polaris_bexecute_domtrans(telnetd_t)
```

```
# /tmp/sw/rp/0/0/rp_security/mount/usr/binos/sbin/in.telnetd
# -L /usr/binos/conf/brelay.sh
# - this needs read/write/create access to /tmp/rp/trace/in_telnetd_*.bin.tmp
# which later gets renamed to /tmp/rp/trace/telnetd_service_sh_*.bin
polaris_btrace_data_manage(telnetd_t)
```

```
# mcp_telnetd_init through btrace_application_start calls get_chassis_number
# so it needs chasfs access
polaris_chasfs_read(telnetd_t)
polaris_cpld_read(telnetd_t)
polaris_btrace_lvl_config_manage(telnetd_t)
```

# LOOK AT ME: rsync needs sys_admin capability
# only seen when we boot in enforcing mode, localtime glibc library call
# needs time zone information and through __tz_convert function it eventually
# calls syspage function and that in turns calls Cisco syspage related
# prctl that is protected by CAP_ADMIN now

```
gen_require('  
    type rsync_t; 
')
```

```
allow rsync_t self:capability sys_admin;
```

```
# mount_packages.sh systemd unit runs under init_t and it leaks unix socket
gen_require('  
    type rsync_t;  
    type init_t;
')
```

```
allow rsync_t init_t:unix_stream_socket getattr;
```

# LOOK AT ME: auditd needs sys_admin capability
# only seen when we boot in enforcing mode, denials happens upon exec of
# auditdsp why is not entirely clear
gen_require(
    type auditd_t;
)
allow auditd_t self:capability sys_admin;

# LOOK AT ME:
# Because Cisco kernel features check for capability sys_admin
# before granting access to it. It turns out to be mistake because
# in SELinux universe being root does not mean one have sys_admin
# capability. For now grant sys_admin capability to everyone :(

gen_require(
    attribute domain;
)
allow domain self:capability sys_admin;

# LOOK AT ME:
# all polaris SMU system is based on LD_LIBRARY_PATH passing from
# parent to child, but if auxv AT_SECURE would be set to 1, glibc
# will clean LD_LIBRARY_PATH and other environment variables when
# it execve another process. We need to grant noatsecure to all
# processes

gen_require(
    attribute domain;
)
allow domain domain:process { noatsecure rlimitinh };

# nfs server exporting some directories like /harddisk

gen_require(
    type nfsd_t;
)
polaris_disk_bootflash_read_lnk(nfsd_t)
polaris_harddisk_read(nfsd_t)

# nfs server check hugetlbfs files system

gen_require(
    type hugetlbs_t;
)
list_dirs_pattern(nfsd_t, hugetlbs_t, hugetlbs_t)

# temporarily addressing denial,
# preferable to turn on nfs_export_all_rw/ro boolean

gen_require(
    type removable_t;
)
list_dirs_pattern(nfsd_t, removable_t, removable_t)

# firmware type
type polaris_firmware_t;
files_type(polaris_firmware_t)

# some systemd unit creates /firmware directory in initramfs
gen_require(
    attribute domain;
    type root_t;
)
filetrans_pattern(domain, root_t, polaris_firmware_t, dir, "firmware")

# handling /tmp/debug.conf, created by systemd unit
gen_require(
    type polaris_debug_conf_t;
    type unconfined_service_t;
)
files_tmp_filetrans(unconfined_service_t, polaris_debug_conf_t, {file lnk_file}, "debug.conf")

# /tmp/etc files; serving as /etc like but sitting in mutable storage
# (assuming that real /etc would become read-only eventually)
type polaris/etc_t;
files_type(polaris/etc_t);

# /tmp/sv files
type polaris/sv_tmp_t;
files_tmp_file(polaris/sv_tmp_t)

# /dev/i2c-N
type polaris/i2c_device_t;
dev_node(polaris/i2c_device_t)

# remap_mem0 device
type polaris/remap_mem_device_t;
dev_node(polaris/remap_mem_device_t)

type polaris/ebf_t;
files_type(polaris/ebf_t)

# allow all domains map/read ebf files
gen_require(
    attribute domain;
)
polaris/ebf_map(domain)

# btrace files for telnetd, since telnetd is open source label
# and it does not use our domain creation template
gen_require(
    type telnetd_t;
)
type polaris/telnetd_bt_t;
polaris_btrace_data_type(polaris_telnedt_bt_t)
polaris_btrace_data_client(telnedt_t, polaris_telnedt_bt_t)

type polaris_telnedt_maroon_t;
polaris_maroon_data_type(polaris_telnedt_maroon_t)
polaris_maroon_data_client(telnedt_t, polaris_telnedt_maroon_t)

#############################################################################
# "install add file" on ULTRA invokes:
# /tmp/sw/rp/0/0/rp_security/mount/usr/binos/sbin/in.telnedt -L /usr/binos/conf/brelay.sh
# That needs getattr on /lib/systemd/system/ksm.service
polaris_ksm_run_check(telnedt_t)

# restorecon needs sys_resource capability
gen_require(''
type setfiles_t;
')
allow setfiles_t self:capability sys_resource;

# accessing /sys/firmware/dmi/tables/DMI
gen_require(''
    type dmidecode_t;
    type sysfs_t;
')
mmap_files_pattern(dmidecode_t, sysfs_t, sysfs_t)
gen_require(''
    type dmidecode_t;
    type memory_device_t;
')
allow dmidecode_t memory_device_t:chr_file map;
# called by confd_t label with it is file as stdin
polaris_confTd_tmp_use_fifo(dmidecode_t)

# rpcbind binds to port
gen_require(''
    type rpcbind_t;
')
corenct_udp_bind_generic_port(rpcbind_t)

# when polaris_unconfined we need to mark all subject labels except
# iosd lable to run as unconfined
ifdef('polaris_unconfined','
    gen_require(''
        type auditd_t;
        type dhcpc_t;
        type getty_t;
        type inetd_t;
        type initrc_t;
    ')}
type init_t;
  type journalctl_t;
  type nfd_t;
  type ntpd_t;
  type rpcbind_t;
  type rcpd_t;
  type rsync_t;
  type setfiles_t;
  type sshd_t;
  type syslogd_t;
  type system_dbusd_t;
  type udev_t;
  type virtd_t;
  type virtlogd_t;
  type ldconfig_t;
  type hostname_t;

    )
  unconfined_domain(auditd_t)
  unconfined_domain(dhcpc_t)
  unconfined_domain(getty_t)
  unconfined_domain(inetd_t)
  unconfined_domain(initrc_t)
  unconfined_domain(init_t)
  unconfined_domain(journalctl_t)
  unconfined_domain(nfsd_t)
  unconfined_domain(ntpd_t)
  unconfined_domain(rpcbind_t)
  unconfined_domain(rpcd_t)
  unconfined_domain(rsync_t)
  unconfined_domain(setfiles_t)
  unconfined_domain(sshd_t)
  unconfined_domain(syslogd_t)
  unconfined_domain(system_dbusd_t)
  unconfined_domain(udev_t)
  unconfined_domain(virtd_t)
  unconfined_domain(virtlogd_t)
  unconfined_domain(ldconfig_t)
  unconfined_domain(hostname_t)
    )

ifdef(`polaris_unconfined',`
optional_policy(`
  gen_require(`
    type container_runtime_t;
  `)
  unconfined_domain(container_runtime_t)
    `)
  `
)
# /tmp/rsync_log_dir files
type polaris_rsync_tmp_t;
files_tmp_file(polaris_rsync_tmp_t)

# activate correct named transition for basic directories
# when code runs under unconfined_service_t, i.e calls ip
# command that runs under ifconfig_t and creates /run/netns
gen_require('
    type unconfined_service_t;
')
domain_named_filetrans(unconfined_service_t)
gen_require('
    type ifconfig_t;
    type ifconfig_var_run_t;
')
allow ifconfig_t ifconfig_var_run_t:dir mounton;

# earlier invocation of ifconfig complains about tmp_t mounton
# on /sys directory
/gen_require('
    type tmp_t;
')
allow ifconfig_t tmp_t:dir mounton;

#SERDES library stores info in /tmp/serdes_asic_key_dir/*
type polaris_serdes_asic_key_tmp_t;
files_tmp_file(polaris_serdes_asic_key_tmp_t)

# /dev/shm/vrf_shm access
type polaris_vrf_shm_t;
files_type(polaris_vrf_shm_t)

# /dev/shm/cerrno_dll access
type polaris_cerr_shm_t;
files_tmpfs_file(polaris_cerr_shm_t)

# for /sbin/ip: /dev/shm/vrf_shm access in netns creation
gen_require('
    type ifconfig_t;
')
polaris_vrf_shm_manage(ifconfig_t)

# for /sbin/ip: adds lfts device in netns creation
polaris_lfts_dev_use(ifconfig_t)

# new systemd-tmpfiles needs this permissions
/gen_require('
type systemd_tmpfiles_t;

allow systemd_tmpfiles_t self:capability sys_resource;
allow systemd_tmpfiles_t self:process setrlimit;

gen_require(
    type unconfined_service_t;
')

ssh_initrd_domtrans(unconfined_service_t)

#wlc awips
type polaris_awips_signature_file_t;
polaris_pfile_type(polaris_awips_signature_file_t)

# /usr/bin/curl
type polaris_curl_t;
type polaris_curl_exec_t;
init_system_domain(polaris_curl_t, polaris_curl_exec_t)
corenet_udp_bind_generic_node(polaris_curl_t)
auth_use_nsswitch(polaris_curl_t)
polaris_crft_data_read(polaris_curl_t)

# for ip netns exec X curl
optional_policy(
    polaris_curl_domtrans(ifconfig_t)
')

#/etc/init.d/sshd that runs under initrc_t through ssh-keygen
# creates /config/.ssh directory if does not exist; /config
# directory is typically symlink to /bootflash
gen_require(
    type initrc_t;
    type ssh_home_t;
')
polaris_bootflash_filetrans(initrc_t, ssh_home_t, dir, ",.ssh")

#/tmp/ldwm_envelope file
type polaris_ldwm_envelope_tmp_t;
files_tmp_file(polaris_ldwm_envelope_tmp_t)
gen_require(
    type initrc_t;
    type init_t;
')
files_tmp_filetrans({ initrc_t init_t }, polaris_ldwm_envelope_tmp_t, file, "ldwm_envelope")

# CLI: show platform software tech-support

# CLI: show platform software tech-support
polaris_utility_domain_template(tech_support)
polaris_bexecute_domain(polaris_tech_support_t, polaris_tech_support_exec_t)
polaris_bexecute_domtrans(polaris_tech_support_t)

# allow to run readlink -f /usr/binos/conf/psimple.sh
corecmd_exec_bin(polaris_tech_support_t)

# Additional policies needed for workflow
auth_use_nsswitch(polaris_tech_support_t)
dev_list_sysfs(polaris_tech_support_t)
polaris_chasfs_read(polaris_tech_support_t)
polaris_cpld_read(polaris_tech_support_t)
# scripts stdin is set by hman and needs access to pipes like pipe:[271524]
polaris_hman_use_fifo(polaris_tech_support_t)
# Allow ls to /tmp/ufs/crashinfo
optional_policy(
    polaris_ncd_tmp_read(polaris_tech_support_t)
)

# Allow readlink to /usb0 and /usb1
optional_policy(
    fs_read_removable_symlinks(polaris_tech_support_t)
)

gen_require(
    type polaris_btrace_tmppub_t;
    type polaris_disk_bootflash_t;
    type polaris_disk_crashinfo_t;
)

# platform_tech_support.sh creates misc files/dirs under /tmp/tmppub
type polaris_tech_support_tmp_t;
files_tmp_file(polaris_tech_support_tmp_t)
filetrans_pattern(polaris_tech_support_t, polaris_btrace_tmppub_t, polaris_tech_support_tmp_t, [ file dir ])
# misc file directly in /tmp like /tmp/esg_tech_support_command_file_out.txt
files_tmp_filetrans(polaris_tech_support_t, polaris_tech_support_tmp_t, file, "esg_tech_support_command_file_out.txt")
files_tmp_filetrans(polaris_tech_support_t, polaris_tech_support_tmp_t, file, "sdwan_tech_support_command_file_out.txt")
manage_files_pattern(polaris_tech_support_t, polaris_tech_support_tmp_t, polaris_tech_support_tmp_t)
manage_dirs_pattern(polaris_tech_support_t, polaris_tech_support_tmp_t, polaris_tech_support_tmp_t)

# /bootflash/certs
type polaris_ap_cert_file_t;
files_type(polaris_ap_cert_file_t)
polaris_pfile_type(polaris_ap_cert_file_t)

# Additional policies needed for workflow when file option is used
# show platform software tech-support file bootflash:show_tech_file
polaris_bootflash_manage(polaris_tech_support_t)
polaris_disk_crashinfo Manage(polaris_tech_support_t)
fs_getattr_tmpfs(polaris_tech_support_t)
polaris_btrace_persistent_data_read(polaris_tech_support_t)

type polaris_rommon_info_tmp_t;
files_tmp_filetrans(intrc_t, polaris_rommon_info_tmp_t, file, "existing_rommon_info")
manage_files_pattern(intrc_t, polaris_rommon_info_tmp_t, polaris_rommon_info_tmp_t)
fs_associate_tmpfs(polaris_rommon_info_tmp_t)

# tamlib debug file
type polaris_tamlib_dbg_file_t;
polaris_pfile_type(polaris_tamlib_dbg_file_t)

# read /proc/cmdline
kernel_read_system_state(polaris_tech_support_t)
# read rmbonbifo files such as env_var.sh
polaris_rmonbifo_tmp_read(polaris_tech_support_t)
# read /tmp/sw/boot/base_pkg
polaris_boot_tmp_read(polaris_tech_support_t)

# /dev/ddr
type polaris_ddr_device_t;
dev_node(polaris_ddr_device_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscommon.te
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl Ripc Base Interface Map: track that type declations unique
define(ripc_base_type_map', `defn(format(``ripc_base_type_map[%s]'', `$1'))')
define(ripc_base_type_map_set', `define(format(``ripc_base_type_map[%s]'', `$1'), `$2')')

define(ripc_base_port_map', `defn(format(``ripc_base_port_map[%s]'', `$1'))')
define(ripc_base_port_map_set', `define(format(``ripc_base_port_map[%s]'', `$1'), `$2')')

define(polaris_ripc_portcon',portcon tcp $1 gen_context(system_u:object_r:$2,s0))
define(polaris_ripc_portcon_aux',`dnl
ifelse(ripc_base_port_map($1), `', `polaris_ripc_portcon($1, $2)')
ripc_base_port_map_set($1, $2)
define('polaris_ripc_portcon_many',
'polaris_ripc_portcon_aux(eval($2 + $3), $1)
ifelse($4, $3, `', `polaris_ripc_portcon_many($1, $2, eval($3 + 1), $4)'))
)

define('polaris_ripc_service_server_aux','dnl
type $1, port_type, defined_port_type;
$4
')

define('polaris_ripc_service_server_full','dnl
polaris_ripc_service_server_aux(ripc_label($1), ripc_stem($1), process_label($2),
    polaris_ripc_portcon_many(ripc_label($1), $5, min_scope_ripc_map($3, $4, $2),
    max_scope_ripc_map($3, $4, $2)))
')

define('polaris_ripc_service_server','dnl
ifelse(ripc_base_type_map($1), `', `polaris_ripc_service_server_full($1, $2, $3, $4, $5))
ripc_base_type_map_set($1, 1)
')

define('polaris_ripc_service_client','dnl
ifelse(ripc_base_type_map($1), `', `polaris_ripc_service_server_full($1, $2, $3, $4, $5))
ripc_base_type_map_set($1, 1)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_base_ripc_te.m4
No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky
# # Copyright (c) 2017-2019 by Cisco Systems, Inc.
# # All rights reserved
#

### <summary>Polaris ngwc_plfm_mgr Policy Rules.</summary>

# # summary>
# Read /tmp/installer files and directories
# </summary>
# <param name="domain">
# <summary>
## <summary>Domain allowed access. </summary>
## </param>
#
interface('polaris_ngwc_plfm_mgt_tmp_manage',`
    gen_require(`
        type polaris_ngwc_plfm_mngr_tmp_t;
    `)
    manage_dirs_pattern($1, polaris_ngwc_plfm_mngr_tmp_t, polaris_ngwc_plfm_mngr_tmp_t)
    manage_files_pattern($1, polaris_ngwc_plfm_mngr_tmp_t, polaris_ngwc_plfm_mngr_tmp_t)
``)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwcplfmmgr.if
No license file was found, but licenses were detected in source scan.
#
# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris dmi_dmiauthd Policy Rules.</summary>

########################################
## <summary>
##     Connect to and send messages to dmiauthd.
## tmp/.DmiAuth.sock unix datagram sockets.
## </summary>
## <param name="domain">
##     Domain allowed access.
## </param>
#
interface('polaris_dmi_dmiauthd_dgram_send',`
    gen_require(`
        type polaris_dmi_dmiauthd_tmp_t;
        type polaris_dmi_dmiauthd_t;
    `)
    allow $1 self:unix_stream_socket {create_socket_perms};
    allow $1 polaris_dmi_dmiauthd_t:unix_stream_socket {connectto};
    write_sock_files_pattern($1, polaris_dmi_dmiauthd_tmp_t,polaris_dmi_dmiauthd_tmp_t)
``)

######################################
## <summary>
## Manage dmiauthd fifo files

<summary>
Domain allowed access.
</summary>

<param name="domain">
<summary>
Domain allowed access.
</summary>

interface(`polaris_dmiauthd_tmp_manage',
gen_require(
type polaris_dmi_dmiauthd_tmp_t;
type tmp_t;
')
manage_fifo_files_pattern($1, tmp_t, polaris_dmi_dmiauthd_tmp_t)
')

## Write into fifo file created by dmiauthd, typical case when
dmiauthd starts script under popen.

<param name="domain">
<summary>
Domain allowed access.
</summary>

interface(`polaris_dmiauthd_use_fifo',
gen_require(
type polaris_dmi_dmiauthd_t;
')
write_fifo_files_pattern($1, polaris_dmi_dmiauthd_t, polaris_dmi_dmiauthd_t)
')

## Manage /tmp/netconf-yang-diag/ files

<param name="domain">
<summary>
Domain allowed access.
</summary>

interface(`polaris_dmiauthd_tmp_diags_manage',
gen_require(
type polaris_dmi_dmiauthd_tmp_diags_t;
manage_files_pattern($1, polaris_dmi_dmiauthd_tmp_diags_t, polaris_dmi_dmiauthd_tmp_diags_t)
manage_dirs_pattern($1, polaris_dmi_dmiauthd_tmp_diags_t, polaris_dmi_dmiauthd_tmp_diags_t)
manage_link_files_pattern($1, polaris_dmi_dmiauthd_tmp_diags_t, polaris_dmi_dmiauthd_tmp_diags_t)

#######################################
## <summary>
## Read /tmp/netconf-yang-diag/ files
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
## <rolebase/>
#
# interface('polaris_dmiauthd_tmp_diags_read',
  gen_require(
    type polaris_dmi_dmiauthd_tmp_diags_t;
  ));
read_files_pattern($1, polaris_dmi_dmiauthd_tmp_diags_t, polaris_dmi_dmiauthd_tmp_diags_t)
list_dirs_pattern($1, polaris_dmi_dmiauthd_tmp_diags_t, polaris_dmi_dmiauthd_tmp_diags_t)
read_link_files_pattern($1, polaris_dmi_dmiauthd_tmp_diags_t, polaris_dmi_dmiauthd_tmp_diags_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmidmiauthd.if
No license file was found, but licenses were detected in source scan.

#
# March 2019, Shikhar Dogra
#
# Copyright (c) 2019 by Cisco Systems, Inc.
# All rights reserved
#
#
# polarisfmancc file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfmancc.fc
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define(`lipc_stem', `translit(patsubst($1, `\-lipc\$', `'), `\-\', `_\')')
define(`lipc_label', `format(`polaris_%s_lipc_t', lipc_stem($1)))

dnl Lipc Type Map: track that type declations unique
define(`lipc_type_map', `defn(format(``lipc_type_map[%s]'', `$1'))')
define(`lipc_type_map_set', `define(format(``lipc_type_map[%s]'', `$1'), `$2')')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_lipc.m4
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
# # Copyright (c) 2020-2021 by Cisco Systems, Inc.
# # All rights reserved
#

policy_module(polariscfgmgr, 1.0);

gen_require(
    type polaris_cfgmgr_t;
')
polaris_chasfs_manage(polaris_cfgmgr_t)

# read day0_oper.xml and write local.data.tmp
polaris_bootflash_manage(polaris_cfgmgr_t)
polaris_boot_tmp_read(polaris_cfgmgr_t)
polaris_cpld_read(polaris_cfgmgr_t)
polaris_tdlresolve_read(polaris_cfgmgr_t)
polaris_flashlib_read(polaris_cfgmgr_t)
polaris_ripc_sman_ui_serv_connect(polaris_cfgmgr_t)
polaris_db_tdlmdb_dir_use(polaris_cfgmgr_t)
logging_send_syslog_msg(polaris_cfgmgr_t)

# vconfd_load_shared_schemas
polaris_confd_shared_schema_read(polaris_cfgmgr_t)

polaris_cedge_reset_ns(polaris_cfgmgr_t)
polaris_cedge_etc_manage(polaris_cfgmgr_t)

# /etc/version is opened via "show sdwan version"
polaris_confd_etc_read(polaris_cfgmgr_t)
type polaris_cfgmgr_var_run_t;
files_pid_file(polaris_cfgmgr_var_run_t)
manage_files_pattern(polaris_cfgmgr_t, polaris_cfgmgr_var_run_t, polaris_cfgmgr_var_run_t)
manage_sock_files_pattern(polaris_cfgmgr_t, polaris_cfgmgr_var_run_t, polaris_cfgmgr_var_run_t)
files_pid_filetrans(polaris_cfgmgr_t, polaris_cfgmgr_var_run_t, { file sock_file })

# /var/run/.cfgmgr socket and pid
sysnet_manage_ifconfig_run(polaris_cfgmgr_t)

# PLEASE LOOK AT ME create_syslog_conf_file function in
# viptela/cfgmgr/cfgmgr_logging.c creates /etc/syslog.conf.sysklogd file
# that nobody uses in polaris
files_manage_etc_files(polaris_cfgmgr_t)

# in cfgmgr_vpn_namespace_add creates udp socket
allow polaris_cfgmgr_t self:udp_socket create_socket_perms;

# watch /bootflash/sdwan/day0_oper.xml
polaris_persistent_watch(polaris_cfgmgr_t)

# compute_available_memory executes '/bin/df /dev/shm'
corecmd_exec_bin(polaris_cfgmgr_t)
# vip_binos_cpuinfo calls sysconf
dev_read_sysfs(polaris_cfgmgr_t)
# cfgmgr_show_system_get_elem collects SDWAN_DISK_MOUNT (/bootflash) fs info
fs_getattr_xattr_fs(polaris_cfgmgr_t)
# crashlist_refresh collects info about corefiles
polaris_core_file_read(polaris_cfgmgr_t)
# cfgmgr_show_system_get_elem collects info about /bootflash/installer fs
polaris_disk_install_read(polaris_cfgmgr_t)
# cfgmgr_show_system_get_elem() collects available mem info by executing
# '/bin/df /tmp/rp/tddb'
polaris_tddb_list_dirs(polaris_cfgmgr_t)

#vip_binos_cpuinfo() performs file operations on PROC_CPUSTAT_FILE (/proc/stat)
polaris_disk_install_fs_getattr(polaris_cfgmgr_t)
#vip_binos_meminfo() reads PROC_MEMINFO_PATH (/proc/meminfo)
kernell_read_system_state(polaris_cfgmgr_t)

# configure ip address on system interface on vrf 1
sysnet_domtrans_ifconfig(polaris_cfgmgr_t)

# create tunnel interface in cfgmgr_tun_alloc function
corenet_rw_tun_tap_dev(polaris_cfgmgr_t)
allow polaris_cfgmgr_t self:tun_socket create;

# works if /proc accept_source_route file of system interface
kernel_rw_net_sysctls(polaris_cfgmgr_t)

# work with /tmp/xml/geostats
polaris_cedge_xml_tmp_manage(polaris_cfgmgr_t)

# work with /tmp/tmp/geostats
polaris_cedge_tmp_manage(polaris_cfgmgr_t)
allow polaris_cfgmgr_t self:process setpgid;

# map on /etc/passwd
auth_map_passwd(polaris_cfgmgr_t)

# give read permissions for /tmp/GPS_supported file created by iosd
polaris_iosd2iox_tmp_read(polaris_cfgmgr_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscfgmgr.te
No license file was found, but licenses were detected in source scan.

dnl
dnl May 2018, Manohar Hungund
dnl
dnl Copyright (c) 2018-2019, 2021 by Cisco Systems, Inc.
dnl All rights reserved

dnl Starfleet Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`bp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 1)
max_bay_map_set(`fp', `per_bay', 1)

min_bay_ripc_map_set(`rp', `per_bay', 0)
min_bay_ripc_map_set(`bp', `per_bay', 0)
min_bay_ripc_map_set(`cc', `per_bay', 1)
min_bay_ripc_map_set(`fp', `per_bay', 0)

max_bay_ripc_map_set(`rp', `per_bay', 1)
max_bay_ripc_map_set(`bp', `per_bay', 1)
max_bay_ripc_map_set(`cc', `per_bay', 1)
max_bay_ripc_map_set(`fp', `per_bay', 1)

min_bay_ripc_map_set(`rp', `global', 0)
min_bay_ripc_map_set(`bp', `global', 0)
min_bay_ripc_map_set(`cc', `global', 1)
min_bay_ripc_map_set(`fp', `global', 0)

max_bay_ripc_map_set(`rp', `global', 1)
max_bay_ripc_map_set(`bp', `global', 1)
max_bay_ripc_map_set("cc", `global`, 1)
max_bay_ripc_map_set("fp", `global`, 1)

dnl in elastic scope each process has its own value
max_elastic_map_set(`rp`, `elastic`, BPROC_ODM, 0)
max_elastic_map_set(`cc`, `elastic`, BPROC_ODM, 0)
max_elastic_map_set(`fp`, `elastic`, BPROC_ODM, 0)

max_elastic_map_set(`rp`, `elastic`, BPROC_WNCD, 0)
max_elastic_map_set(`cc`, `elastic`, BPROC_WNCD, 0)
max_elastic_map_set(`fp`, `elastic`, BPROC_WNCD, 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/bigbangmaps.m4
No license file was found, but licenses were detected in source scan.

dnl
dnl Copyright (c) 2020 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl Nyquist Platform Max Bay Limits
max_bay_map_set(`rp`, `per_bay`, 0)
max_bay_map_set(`cc`, `per_bay`, 0)
max_bay_map_set(`fp`, `per_bay`, 0)

dnl in elastic scope each process has its own value
max_elastic_map_set(`rp`, `elastic`, BPROC_ODM, 0)
max_elastic_map_set(`cc`, `elastic`, BPROC_ODM, 0)
max_elastic_map_set(`fp`, `elastic`, BPROC_ODM, 0)

max_elastic_map_set(`rp`, `elastic`, BPROC_WNCD, 0)
max_elastic_map_set(`cc`, `elastic`, BPROC_WNCD, 0)
max_elastic_map_set(`fp`, `elastic`, BPROC_WNCD, 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/quake2maps.m4
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisodmproxy file contexts place holder

Found in path(s):
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
# #
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris rif_mgr Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrifmgr.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
# #
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

# #
# August 2018 Man-Yee Hau
# #
# Copyright (c) 2018-2020 by cisco Systems, Inc.
# All rights reserved

/usr/cpp/bin/qfp-ucode-csr -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-csr-us -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-csx -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-c8kv -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-wlc -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-utah -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-tns -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-tns-le -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-supernova -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-blackheart -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-sparrow -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-aventus -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-cabo -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-goldbeach -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-radium -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-fugazi -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-sumatra -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-nanook -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/usr/cpp/bin/qfp-ucode-csr-fb -- gen_context(system_u:object_r:polaris_qfp_exec_t,s0)
/var/run/.rte_config --gen_context(system_u:object_r:polaris_qfp_var_run_t,s0)

/dev/netmap -c gen_context(system_u:object_r:polaris_netmap_device_t,s0)

/dev/svc_eng_punt[0-9]*/c gen_context(system_u:object_r:polaris_sep_device_t,s0)

# qfp memif interfaces
/bootflash/SHARED-IOX/memif(/.*)? gen_context(system_u:object_r:polaris_qfp_memif_t,s0)
/tmp/memif(/.*)? gen_context(system_u:object_r:polaris_qfp_memif_t,s0)

# CSR & C8KV infiniband devices for Azure
/dev/infiniband/uverbs[0-9]*/c gen_context(system_u:object_r:polaris_infiniband_device_t,s0)

/etc/rc\d/init\d/iodbd.sh --gen_context(system_u:object_r:polaris_iodbd_exec_t,s0)

# For Intel quickassist (qat) v1.5 - Note that mcp_family also includes this.
# fugazi uses polarismcp.fc and polarisqfp.fc so need to exclude it here.
ifndef(`mcp_family',`
/dev/icp_adf_ctl -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/icp_dev_processes -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
')

# For platforms which use Intel quickassist (qat) v1.7
/dev/usdm_drv -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/qat_adf_ctl -c gen_context(system_u:object_r:polaris_icp_device_t,s0)
/dev/qat_dev_processes -c gen_context(system_u:object_r:polaris_icp_device_t,s0)

# For platforms which use the musdk from the Marvell 10.3.x.x SDK
/dev/musdk-cma -c gen_context(system_u:object_r:polaris_icp_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisqfp.fc
No license file was found, but licenses were detected in source scan.

#
# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/telnetd_service.sh -- gen_context(system_u:object_r:polaris_tservice_telnet_exec_t,s0)
/usr/binos/conf/sshd_service.sh -- gen_context(system_u:object_r:polaris_tservice_ssh_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristservice.fc
No license file was found, but licenses were detected in source scan.
#/ March 2017, Victor Kamensky
#/ Copyright (c) 2016-2019 by Cisco Systems, Inc.
#/ All rights reserved
#

/usr/bin/os/conf/rollback_timer.sh -- gen_context(system_u:object_r:polaris_rbtimer_exec_t,s0)

/bootflash/.rollback_timer(/.*)? gen_context(system_u:object_r:polaris_rbtimer_bootflash_t,s0)
/tmp/rp/rollback_timer(/.*)? gen_context(system_u:object_r:polaris_rbtimer_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrollbacktimer.fc
No license file was found, but licenses were detected in source scan.

dnl

dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl Katar WLC Platform Max Bay Limits
dnl max_bay_map_set('rp', 'per_bay', 0)
max_bay_map_set('cc', 'per_bay', 3)
max_bay_map_set('fp', 'per_bay', 0)

max_bay_ripc_map_set('rp', 'per_bay', 0)
max_bay_ripc_map_set('cc', 'per_bay', 3)
max_bay_ripc_map_set('fp', 'per_bay', 0)

max_bay_ripc_map_set('rp', 'global', 0)
max_bay_ripc_map_set('cc', 'global', 3)
max_bay_ripc_map_set('fp', 'global', 0)

dnl in elastic scope each process has its own value
dnl max_elastic_map_set('rp', 'elastic', BPROC_ODM, 1)
max_elastic_map_set('cc', 'elastic', BPROC_ODM, 1)
max_elastic_map_set('fp', 'elastic', BPROC_ODM, 1)

max_elastic_map_set('rp', 'elastic', BPROC_WNCD, 7)
max_elastic_map_set('cc', 'elastic', BPROC_WNCD, 7)
max_elastic_map_set('fp', 'elastic', BPROC_WNCD, 7)

max_elastic_ripc_map_set('rp', 'elastic', BPROC_ODM, 1)
max_elastic_ripc_map_set('cc', 'elastic', BPROC_ODM, 1)
max_elastic_ripc_map_set('fp', 'elastic', BPROC_ODM, 1)

max_elastic_ripc_map_set('rp', 'elastic', BPROC_WNCD, 7)
max_elastic_ripc_map_set('cc', 'elastic', BPROC_WNCD, 7)
max_elastic_ripc_map_set('fp', 'elastic', BPROC_WNCD, 7)
max_elastic_rpc_map_set(’fp’, ’elastic’, BPROC_WNCD, 7)

Found in path(s):
* /opt/cola/permissions/1103963160_1615183271.1/0/selinux-tar/selinux/m4/katarmaps.m4
No license file was found, but licenses were detected in source scan.

#
# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

# polariscontainer file contexts place holder

# All the possible IOX flash_dir/harddisk_dir from iox_polaris.conf for docker
# Expected labels for docker as per container.fc
/
#gen_context(system_u:object_r:container_var_lib_t,s0)
/bootflash/docker(/.*)? gen_context(system_u:object_r:container_var_lib_t,s0)
/bootflash/docker/.*/config\env gen_context(system_u:object_r:container_share_t,s0)
/bootflash/docker/.*/containers/.*/.*\log gen_context(system_u:object_r:container_log_t,s0)
/bootflash/docker/.*/containers/*\hostname gen_context(system_u:object_r:container_share_t,s0)
/bootflash/docker/.*/overlay(/.*)? gen_context(system_u:object_r:container_share_t,s0)
/bootflash/docker/.*/overlay2(/.*)? gen_context(system_u:object_r:container_share_t,s0)

/bootflash/iox_alt_hdd_mount_dir/docker(/.*)? gen_context(system_u:object_r:container_var_lib_t,s0)
/bootflash/iox_alt_hdd_mount_dir/docker/.*/config\env gen_context(system_u:object_r:container_share_t,s0)
/bootflash/iox_alt_hdd_mount_dir/docker/.*/containers/.*/.*\log gen_context(system_u:object_r:container_log_t,s0)
/bootflash/iox_alt_hdd_mount_dir/docker/.*/containers/*\hostname gen_context(system_u:object_r:container_share_t,s0)
/bootflash/iox_alt_hdd_mount_dir/docker/.*/init(/.*)? gen_context(system_u:object_r:container_share_t,s0)
/bootflash/iox_alt_hdd_mount_dir/docker/.*/overlay(/.*)? gen_context(system_u:object_r:container_share_t,s0)
/bootflash/iox_alt_hdd_mount_dir/docker/.*/overlay2(/.*)? gen_context(system_u:object_r:container_share_t,s0)

/mnt/sd3/docker(/.*)? gen_context(system_u:object_r:container_var_lib_t,s0)
/mnt/sd3/docker/.*/config\env gen_context(system_u:object_r:container_share_t,s0)
/mnt/sd3/docker/.*/containers/.*/.*\log gen_context(system_u:object_r:container_log_t,s0)
/mnt/sd3/docker/.*/containers/*\hostname gen_context(system_u:object_r:container_share_t,s0)
/mnt/sd3/docker/.*/containers/*\hosts gen_context(system_u:object_r:container_share_t,s0)
ifdef(`nyquist_platform',
    /mnt/sd3/iox_alt_hdd_mount_dir/docker(/.*)?
        gen_context(system_u:object_r:container_share_t,s0)
    /mnt/sd3/iox_alt_hdd_mount_dir/docker/.*config.env
        gen_context(system_u:object_r:container_share_t,s0)
    /mnt/sd3/iox_alt_hdd_mount_dir/docker/.*containers/*.*.log
        gen_context(system_u:object_r:container_log_t,s0)
    /mnt/sd3/iox_alt_hdd_mount_dir/docker/.*containers/.*.*.log
        gen_context(system_u:object_r:container_log_t,s0)
    /mnt/sd3/iox_alt_hdd_mount_dir/docker/.*containers/.*hosts
        gen_context(system_u:object_r:container_share_t,s0)
    /mnt/sd3/iox_alt_hdd_mount_dir/docker/.*init(/.*)?
        gen_context(system_u:object_r:container_share_t,s0)
    /mnt/sd3/iox_alt_hdd_mount_dir/docker/.*overlay(/.*)?
        gen_context(system_u:object_r:container_share_t,s0)
    /mnt/sd3/iox_alt_hdd_mount_dir/docker/.*overlay2(/.*)?
        gen_context(system_u:object_r:container_share_t,s0)
    /
    ifdef(`passport_platform',
        /flash1/iox_alt_hdd_mount_dir/docker(/.*)?
            gen_context(system_u:object_r:container_var_lib_t,s0)
        /flash1/iox_alt_hdd_mount_dir/docker/.*config.env
            gen_context(system_u:object_r:container_share_t,s0)
        /flash1/iox_alt_hdd_mount_dir/docker/.*containers/*.*.log
            gen_context(system_u:object_r:container_log_t,s0)
        /flash1/iox_alt_hdd_mount_dir/docker/.*containers/.*.*.log
            gen_context(system_u:object_r:container_log_t,s0)
        /flash1/iox_alt_hdd_mount_dir/docker/.*containers/.*hosts
            gen_context(system_u:object_r:container_share_t,s0)
        /flash1/iox_alt_hdd_mount_dir/docker/.*init(/.*)?
            gen_context(system_u:object_r:container_share_t,s0)
        /flash1/iox_alt_hdd_mount_dir/docker/.*overlay(/.*)?
            gen_context(system_u:object_r:container_share_t,s0)
        /flash1/iox_alt_hdd_mount_dir/docker/.*overlay2(/.*)?
            gen_context(system_u:object_r:container_share_t,s0)
    ')
Found in path(s):

```
#Sumatra
```

```
/flash1/iox/docker(\.*).? \n/flash1/iox/docker/\.*/config\ environ gen_context(system_u:object_r:container_var_lib_t,s0)
/flash1/iox/docker/\.*/containers/\.*/.\*\.log gen_context(system_u:object_r:container_log_t,s0)
/flash1/iox/docker/\.*/containers/\.*/hostname gen_context(system_u:object_r:container_share_t,s0)
/flash1/iox/docker/\.*/containers/\.*/hosts gen_context(system_u:object_r:container_share_t,s0)
/flash1/iox/docker/\.*/init(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/flash1/iox/docker/\.*/overlay(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/flash1/iox/docker/\.*/overlay2(\.*).? gen_context(system_u:object_r:container_share_t,s0)

/vol/harddisk/docker(\.*).? \n/vol/harddisk/docker/\.*/config\ environ gen_context(system_u:object_r:container_share_t,s0)
/vol/harddisk/docker/\.*/containers/\.*/.\*\.log gen_context(system_u:object_r:container_log_t,s0)
/vol/harddisk/docker/\.*/containers/\.*/hostname gen_context(system_u:object_r:container_share_t,s0)
/vol/harddisk/docker/\.*/containers/\.*/hosts gen_context(system_u:object_r:container_share_t,s0)
/vol/harddisk/docker/\.*/init(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/vol/harddisk/docker/\.*/overlay(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/vol/harddisk/docker/\.*/overlay2(\.*).? gen_context(system_u:object_r:container_share_t,s0)

/vol/disk0/docker(\.*).? \n/vol/disk0/docker/\.*/config\ environ gen_context(system_u:object_r:container_share_t,s0)
/vol/disk0/docker/\.*/containers/\.*/.\*\.log gen_context(system_u:object_r:container_log_t,s0)
/vol/disk0/docker/\.*/containers/\.*/hostname gen_context(system_u:object_r:container_share_t,s0)
/vol/disk0/docker/\.*/containers/\.*/hosts gen_context(system_u:object_r:container_share_t,s0)
/vol/disk0/docker/\.*/init(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/vol/disk0/docker/\.*/overlay(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/vol/disk0/docker/\.*/overlay2(\.*).? gen_context(system_u:object_r:container_share_t,s0)

/vol/usb1/docker(\.*).? \n/vol/usb1/docker/\.*/config\ environ gen_context(system_u:object_r:container_share_t,s0)
/vol/usb1/docker/\.*/containers/\.*/.\*\.log gen_context(system_u:object_r:container_log_t,s0)
/vol/usb1/docker/\.*/containers/\.*/hostname gen_context(system_u:object_r:container_share_t,s0)
/vol/usb1/docker/\.*/containers/\.*/hosts gen_context(system_u:object_r:container_share_t,s0)
/vol/usb1/docker/\.*/init(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/vol/usb1/docker/\.*/overlay(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/vol/usb1/docker/\.*/overlay2(\.*).? gen_context(system_u:object_r:container_share_t,s0)

/flash1/iox/docker(\.*)? \n/flash1/iox/docker/\.*/config\ environ gen_context(system_u:object_r:container_var_lib_t,s0)
/flash1/iox/docker/\.*/containers/\.*/.\*\.log gen_context(system_u:object_r:container_log_t,s0)
/flash1/iox/docker/\.*/containers/\.*/hostname gen_context(system_u:object_r:container_share_t,s0)
/flash1/iox/docker/\.*/containers/\.*/hosts gen_context(system_u:object_r:container_share_t,s0)
/flash1/iox/docker/\.*/init(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/flash1/iox/docker/\.*/overlay(\.*).? gen_context(system_u:object_r:container_share_t,s0)
/flash1/iox/docker/\.*/overlay2(\.*).? gen_context(system_u:object_r:container_share_t,s0)
```

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 778
/* /opt/cola/permits/1103963160_1615183271.1/0/selinix-tar/selinix/polariscontainer.fc */

No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarissortfiles, 1.0);

gen_require(
    type polaris_sort_files_t;
    ')

corecmd_exec_bin(polaris_sort_files_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_sort_files_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_sort_files_t)

polaris_btrace_data_manage(polaris_sort_files_t)
polaris_chasfs_manage(polaris_sort_files_t)
polaris_rmonbifo_tmp_read(polaris_sort_files_t)
polaris_read_debug_conf(polaris_sort_files_t)
polaris_persistent_getattr(polaris_sort_files_t)
polaris_persistent_list_dirs(polaris_sort_files_t)
polaris_cpld_read(polaris_sort_files_t)
polaris_capsule_upgrade_log_use(polaris_sort_files_t)
optional_policy(
    polaris_gnmib_gnoi_images_read(polaris_sort_files_t)
    ')

# Don'taudit /bootflash/#lost+found avc denials
dontaudit polaris_sort_files_t polaris_disk:chr_file { getattr };
dontaudit polaris_sort_files_t polaris_disk:blk_file { getattr };

#allow polaris_sort_files_t polaris_udev_tmp_files_t:dir { getattr search };
polaris_udev_tmp_list_dirs(polaris_sort_files_t)

optional_policy(
    polaris_iox_dir_list(polaris_sort_files_t)
    ')

polaris_sandbox_file_dir_list(polaris_sort_files_t)
polaris_disk_bootflash_read_link(polaris_sort_files_t)

polaris_disk_bootflash_fifo_file_getattr(polaris_sort_files_t)
polaris_disk_bootflash_sock_file_getattr(polaris_sort_files_t)

# allow search and read under /tmp/boot directory
polaris_boot_tmp_read(polaris_sort_files_t)

# allow manage the files under /tmp/sort

type polaris_sort_files_tmp_t;
files_tmp_file(polaris_sort_files_tmp_t)
files_tmp_filetrans(polaris_sort_files_t, polaris_sort_files_tmp_t, file)
manage_files_pattern(polaris_sort_files_t, polaris_sort_files_tmp_t, polaris_sort_files_tmp_t)

# for pluggable FS, allow sort to access files on them.
polaris_getattr_removable(polaris_sort_files_t)
polaris_removable_manage(polaris_sort_files_t)
fs_read_removable_symlinks(polaris_sort_files_t)

# to look at files sort_file sometime needs to violate DAC permissions
allow polaris_sort_files_t self:capability dac_read_search;

optional_policy(
# LOOK AT ME memif sock_file interface present in /bootflash as
# /bootflash/SHARED-IOX/memif/memif-dp-svr, since class of the
# object is sock_file adding it to polaris_disk does not make much
# sense
    type polaris_qfp_memif_t;
  )
getattr_sock_files_pattern(polaris_sort_files_t, polaris_qfp_memif_t, polaris_qfp_memif_t)
)

# find runs fstatfs
fs_getattr_xattr_fs(polaris_sort_files_t)

# allow polaris_sort_files_t fs_t:filesystem getattr
fs_getattr_all_fs(polaris_sort_files_t)

# with "/bootflash"...this needs attr to access for logfile
polaris_user_file_getattr(polaris_sort_files_t)

optional_policy(
    gen_require(
        type polaris_efi_files_t;
      )
    )
# find /bootflash/ -printf %i %p
allow polaris_sort_files_t polaris_efi_files_t:dir { getattr open read search }; 

#stat -c %i %f %s %n /bootflash/EFI/UpdateCapsule/UpdateCapsuleFile.bin 
allow polaris_sort_files_t polaris_efi_files_t:file getattr; 

')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissortfiles.te
No license file was found, but licenses were detected in source scan.

#
# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisioxman, 1.0);

gen_require(' 
   type polaris_ioxman_t; 
')

polaris_btrace_data_manage(polaris_ioxman_t) 
polaris_chasfs_manage(polaris_ioxman_t) 
polaris_tldresolve_read(polaris_ioxman_t) 
polaris_tdldb_list_dirs(polaris_ioxman_t) 
polaris_cpld_read(polaris_ioxman_t) 
polaris_lua_read(polaris_ioxman_t) 
polaris_flashlib_read(polaris_ioxman_t) 
polaris_ripc_sman_ui_serv_connect(polaris_ioxman_t) 
polaris_db_tdldb_dir_use(polaris_ioxman_t) 

#allow access to /bootflash/iox/ files 
polaris_iox_dir_search(polaris_ioxman_t) 
corenet_tcp_connect_polaris_caf_api_port(polaris_ioxman_t) 

# allow read permissions for /etc/hosts file 
sysnet_read_config(polaris_ioxman_t) 

# ioxman interacting with caf through api http interface and 
# is uses curl library to send requests to caf. curl wants 
# to do getsockopt with SOL_SOCKET, 
allow polaris_ioxman_t self:tcp_socket getopt;
# allow to get setattr of /proc file system
domain_read_all_domains_state(polaris_ioxman_t)

corecmd_exec_bin(polaris_ioxman_t)
corecmd_exec_shell(polaris_ioxman_t)

# allow to run mount in its own domain; guestshell_set_netns.sh
# needs it; also, read and exec the set_netns script.
# ioxman_setup_guestshell_namespace invokes the script
# using NAMESPACE_COMMAND
mount_domtrans(polaris_ioxman_t)
polaris_guestshell_files_read(polaris_ioxman_t)
polaris_guestshell_exec_files_exec(polaris_ioxman_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_ioxman_t)

# guestshell_set_netns.sh calls ps command
# ps needs access to /sys/devices/system/cpu/online
dev_read_sysfs(polaris_ioxman_t)
# ps needs access to proc_t
kernel_read_system_state(polaris_ioxman_t)

# modifies /bootflash/iox/iox_app/guestshell_iox.json
polaris_iox_files_manage(polaris_ioxman_t)

# guestshell_set_netns.sh touches /var/run/netns/guestshell
files_pid_filetrans(polaris_ioxman_t, polaris_guestshell_var_run_t, file, "guestshell")
polaris_guestshell_var_run_files_manage(polaris_ioxman_t)

# Read and write the all pty
term_use_generic_ptys(polaris_ioxman_t)

# allow ioxman_syslib.sh to set uid/gid for screen
allow polaris_ioxman_t self:capability { dac_override setgid setuid };

# ioxman execve virsh

gen_require('  
    type virsh_t;
    type virsh_exec_t;
')
domtrans_pattern(polaris_ioxman_t, virsh_exec_t, virsh_t)
# virsh needs to write into /tmp/rp/trace/iox_guestshell.log
polaris_btrace_data_manage(virsh_t)

# ioxman is vman client over @vman_domain_socket socket
optional_policy('  
    polaris_vman_use_client_socket(polaris_ioxman_t)
')
# ioxman uses VS_OPER_DB from virtual_services_tbl_init
polaris_tlddbpersist_setup(polaris_ioxman_t)

polaris_tmp_tlddb_persist_setup(polaris_ioxman_t)

# ioxman through libcurl library hit c-ares DNS code needs
# udp sockets access
allow polaris_ioxman_t self:udp_socket connect;

logging_send_syslog_msg(polaris_ioxman_t)

# read /opt/cisco/caf/config/system-config.ini
polaris_caf_files_read(polaris_ioxman_t)

virt_manage_sandbox_files(polaris_ioxman_t)

# handle ioxman /tmp files like /tmp/iox_xml.dat
type polaris_iox_tmp_t;
files_tmp_file(polaris_iox_tmp_t)
polaris_iox_manage_tmp_files(polaris_ioxman_t)

# by some strange reason ioxman munges files in /bootflash/tracelogs
# please see iox_tracefile_restore in ioxman/src/im_serial.c
polaris_btrace_persistent_data_manage(polaris_ioxman_t)

# virsh execved from ioxman inherits stdout from ioxman
gen_require(
    type polaris_ioxman_bt_t;
    type virsh_t;
)
allow virsh_t polaris_ioxman_bt_t:file write;

optional_policy(
    gen_require(
        attribute polaris_domain;
        attribute polaris_extended_domain;
        type container_runtime_t;
    )
    type attribute container_runtime_t polaris_domain;
type attribute container_runtime_t polaris_extended_domain;
)

# /usr/binos/conf/shell_exec.sh policy
polaris_utility_domain_template(iox_shell)
polaris_bexecute_domain(polaris_iox_shell_t, polaris_iox_shell_exec_t)
# shell_exec call bexec.sh
polaris_bexecute_domtrans(polaris_iox_shell_t)
corecmd_exec_bin(polaris_iox_shell_t)
polaris_chasfs_read(polaris_iox_shell_t)
auth_use_nsswitch(polaris_iox_shell_t)
fs_getattr_tmpfs(polaris_iox_shell_t)

mount_domtrans(polaris_iox_shell_t)

# inherit stdin from telnetd
telnet_use_ptys(polaris_iox_shell_t)

# create files under /bootflash/iox
polaris_iox_files_manage(polaris_iox_shell_t)

# executing guestshell.sh
polaris_guestshell_exec_files_exec(polaris_iox_shell_t)
polaris_guestshell_files_read(polaris_iox_shell_t)

# executing "ip netns exec guestshell /usr/bin/ssh ..."
sysnet_exec_ifconfig(polaris_iox_shell_t)
fs_read_nsfs_files(polaris_iox_shell_t)
files_mounton_rootfs(polaris_iox_shell_t)
dev_mountron_sysfs(polaris_iox_shell_t)
allow polaris_iox_shell_t self:netlink_route_socket rw_netlink_socket_perms;
dev_mountron_sysfs_fs(polaris_iox_shell_t)
dev_unmounton_sysfs_fs(polaris_iox_shell_t)

# executing ssh
corenet_tcp_connect_ssh_port(polaris_iox_shell_t)
ssh_exec(polaris_iox_shell_t)
allow polaris_iox_shell_t self:tcp_socket { connect create getopt setopt shutdown };

# ssh creates /root/.ssh directory
userdom_create_user_home_dirs(polaris_iox_shell_t)

# read /etc/guestshell_rsa_key
polaris_guestshell_key_read(polaris_iox_shell_t)

# work with sendbox files
polaris_sandbox_file_dir_list(polaris_iox_shell_t)

polaris_caf_var_run_files_manage(polaris_iox_shell_t)

# shell_exec.sh invokes:
# mkdir /tmp/shell_exec
# create /tmp/shell_exec/*
type polaris_iox2iosd_tmp_t;
files_tmp_file(polaris_iox2iosd_tmp_t)
files_tmp_filetrans(polaris_iox_shell_t, polaris_iox2iosd_tmp_t, dir, ".shell_exec")
files_tmp_filetrans(polaris_iox_shell_t, polaris_iox2iosd_tmp_t, file)
#allow shell_exec to manage /tmp/ncsshhd Authorized_keys
polaris_ncsshhd_keys_manage(polaris_iox_shell_t)
# allows shell_exec to manage /tmp/shell_exec/* files
polaris_iox2iosd_tmp_manage(polaris_iox_shell_t)
# allows shell_exec to work with files created by iosd
polaris_iosd2iox_tmp_manage(polaris_iox_shell_t)
ifdef(`nyquist_platform`,`
# Manage alternate hdd files
polaris_iox_alt_hdd_manage(polaris_iox_shell_t)
`)
ifdef(`passport_platform`,`
# Manage alternate hdd files
polaris_iox_alt_hdd_manage(polaris_iox_shell_t)
`)
allow polaris_iox_shell_t self:capability { chown dac_override fowner fsetid setgid setuid dac_read_search };
allow polaris_iox_shell_t self:cap_users sys_admin;
allow polaris_iox_shell_t self:process setfscreate;

# LOOK AT ME very fishy iox_shell executes
#/bootflash/iox/repo-lxc/guestshell/rootfs_mnt/cisco/shell_exec.sh that
# actually can be modified from container itself. File is recreated
# each guestshell activation and it seems not executed afterwards.
# Grant access for now. Need to look closely whether it could be exploited
# in some way
virt_exec_sandbox_files(polaris_iox_shell_t)

# ip command called from iox_shell, running it under
# iox_shell domain, add required mounton on unlabled_t
files_mounton_isid(polaris_iox_shell_t)

# read guestshell net namespace file
fs_read_nsfs_files(polaris_ioxman_t)

# need to create /bootflash/gs_script/db.ini file
polaris_bootflash_manage(polaris_ioxman_t)
polaris_harddisk_manage(polaris_ioxman_t)

# run_ioxn_secure_dir.sh policy
gen_require(`
    type polaris_iox_secure_dir_t;
`)
corecmd_exec_bin(polaris_iox_secure_dir_t)
auth_use_nsswitch(polaris_iox_secure_dir_t)
polaris_caf_files_read(polaris_iox_secure_dir_t)
polaris_chasfs_manage(polaris_iox_secure_dir_t)
polaris_bootflash_manage(polaris_iox_secure_dir_t)
polaris_harddisk_manage(polaris_iox_secure_dir_t)
polaris_iox_files_manage(polaris_iox_secure_dir_t)

# /bin/cat9k_ssd_auth_cmds.sh
polaris_utility_domain_template(ssd_auth)
corecmd_exec_bin(polaris_ssd_auth_t)
storage_getattr_fixed_disk_dev(polaris_ssd_auth_t)

#allow to read /etc/passwd
auth_use_nsswitch(polaris_ssd_auth_t)

fs_getattr_tmpfs(polaris_ssd_auth_t)

# execute hdparam in its own domain
fstools_domtrans(polaris_ssd_auth_t)

polaris_use_btrace_fifo(polaris_ssd_auth_t)

type polaris_ssd_auth_tmp_t;
files_tmp_file(polaris_ssd_auth_tmp_t)

# bash tmp files like /tmp/sh-thd.kxX3sc
files_tmp_filetrans(polaris_ssd_auth_t, polaris_ssd_auth_tmp_t, file)
manage_files_pattern(polaris_ssd_auth_t, polaris_ssd_auth_tmp_t, polaris_ssd_auth_tmp_t)

# /tmp/ssd_blk_device created by udev
gen_require(''
    type udev_t;
    type tmpfs_t;
    type tmp_t;
')
filetrans_pattern(udev_t, [tmpfs_t tmp_t], polaris_ssd_auth_tmp_t, file, "ssd_blk_device")
polaris_getattr_harddisk(polaris_ssd_auth_t)

fs_read_cgroup_files(polaris_ioxman_t)

# Allow ioxman to download package files using url
polaris_caf_tmp_files_manage(polaris_ioxman_t)
polaris_cli_fs_cmds_domtrans(polaris_ioxman_t)

ufs information captured by the chasfs utils
optional_policy(''
polaris_ncd_tmp_read(polaris_ioxman_t)
')
gen_require(''
    type polaris_fts_client_tmp_t;
')
manage_files_pattern(polaris_ioxman_t, polaris_fts_client_tmp_t, polaris_fts_client_tmp_t)
manage_dirs_pattern(polaris_ioxman_t, polaris_fts_client_tmp_t, polaris_fts_client_tmp_t)
allow polaris_ioxman_t tmp_t:file { create open unlink write }

# get_orchestration_template in cgroup_init_common.sh reads
# ovf-env.xml file from removable and varied
fs_read_removable_files(polaris_ioxman_t)
polaris_disk_varied_read(polaris_ioxman_t)

# writes into /tmp/trace/resource.log
optional_policy(
    polaris_vman_tmp_manage(polaris_ioxman_t)
)

# watch over /tmp/udev/etc/udev/usbflash1 in iox_media_chasfs_watch
polaris_udev_tmp_read(polaris_ioxman_t)
polaris_udev_tmp_watch(polaris_ioxman_t)

ifdef(`nyquist_platform',
# Manage alternate hdd files
polaris_iox_alt_hdd_manage(polaris_ioxman_t)
')

dev_getattr_fs(polaris_iox_shell_t)
kernel_read_system_state(polaris_iox_shell_t)

gen_require(
    type virt_lxc_var_run_t;
)
read_files_pattern(polaris_ioxman_t, virt_lxc_var_run_t, virt_lxc_var_run_t)

# sys_resource denial is seen even on factory reset
allow polaris_ioxman_t self:capability sys_resource;

ifdef(`passport_platform',
# Manage alternate hdd files
polaris_iox_alt_hdd_manage(polaris_ioxman_t)
')

polaris_iosd_vcpu_read(polaris_ioxman_t)

# work with files like /tmp/guestinfo_status.txt
polaris_iosd2iox_tmp_manage(polaris_ioxman_t)

gen_require(
    type screen_var_run_t;
type screen_exec_t;
'

# allow ioxman to set up ttys for screen
polaris_caf tty_link_manage(polaris_ioxman_t)

# allow ioxman_syslib.sh to invoke screen
screen_exec(polaris_ioxman_t)

# add entrypoint to screen_exec/can_exec permissions
allow polaris_ioxman_t screen_exec_t:file entrypoint;

# make sure /tmp/screens is labeled correctly
files_tmp_filetrans(polaris_ioxman_t, screen_var_run_t, dir, "screens")

# allow ioxman to manage /tmp/screens/<appname>_con/aux.sid
manage_files_pattern(polaris_ioxman_t, screen_var_run_t, screen_var_run_t)

# allow ioxman to manage sock_files and unix_stream_socket on screen
allow polaris_ioxman_t self:unix_stream_socket { create_socket_perms connectto };
manage_dirs_pattern(polaris_ioxman_t, screen_var_run_t, screen_var_run_t)
manage_sock_files_pattern(polaris_ioxman_t, screen_var_run_t, screen_var_run_t)

# allow ioxman to transition into bexecute domain
polaris_bexecute_domtrans(polaris_ioxman_t)
polaris_bexecute_domain(polaris_ioxman_t, screen_exec_t)

# allow bexecute to access the /tmp/screens/*.sid files
gen_require(
    type polaris_bexecute_t;
')
manage_files_pattern(polaris_bexecute_t, screen_var_run_t, screen_var_run_t)

# allow shell_exec to manage /tmp/ncsshd Authorized_keys
polaris_nccshd_keys_manage(polaris_iox_shell_t)
polaris_iox2iosd_tmp_manage(polaris_iox_shell_t)

# allow shell_exec to manage guestshell files
gen_require(
    type container_file_t;
')
manage_files_pattern(polaris_iox_shell_t, container_file_t, container_file_t)

# allow ioxman to setattr for /dev/pts relating to screen
gen_require(
    type telnetd_devpts_t;
')
allow polaris_ioxman_t telnetd_devpts_t:chr_file setattr_chr_file_perms;
# allow ioxman to access the /tmp/ttyF*. files

gen_require('type fifo_var_run_t;')
files_tmp_filetrans(polaris_ioxman_t, fifo_var_run_t, fifo_file)
manage_fifo_files_pattern(polaris_ioxman_t, fifo_var_run_t, fifo_var_run_t)

# allow ioxman to access rootfs and sysfs
# The same is needed when guestshell uses a passwordless SSH, when users do
#  like "guestshell run bash" from IOS and it provides a bash shell screen
#  in IOS.

gen_require('type ssh_home_t;')

ssh_filetrans_admin_home_content(polaris_iox_shell_t)
allow polaris_iox_shell_t ssh_home_t:dir {create search getattr};
dev_getattr_sysfs_fs(polaris_iox_shell_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisioxman.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarismqipc, 1.0);

attribute polaris_mqipc;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismqipc.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/var/run/cli_agent\.pid --gen_context(system_u:object_r:polaris_cli_agent_var_run_t,s0)
policy_module(polarisvxe, 1.0);

# hanet driver used by vpcgw platform of VX family
ifdef(`vpcgw_platform',`
    type polaris_hanet_device_t;
    dev_node(polaris_hanet_device_t)
')

# on ultra in some cloud configuration runs dhclient utility
# receive meta information from cloud provider, /var/lib/dhcp
# directory is created by initrc_t
gen_require(''
    type dhcpc_t;
    type initrc_t;
    type dhcp_state_t;
')
files_var_lib_filetrans({ dhcpc_t initrc_t }, dhcp_state_t, dir, "dhcp")

# during boot on misc cloud environment ultra image creates directory
# in /tmp to keep information received from cloud provider. Since latter
# it is copied into /varied directory let's assigned polaris_disk_varied_t
# to them
gen_require(''
    type initrc_t;
    type polaris_disk_varied_t;
    type unconfined_service_t;
')
files_tmp_filetrans({ unconfined_service_t initrc_t }, polaris_disk_varied_t, dir, "ami")
files_tmp_filetrans({ unconfined_service_t initrc_t }, polaris_disk_varied_t, dir, "azure")
files_tmp_filetrans({ unconfined_service_t initrc_t }, polaris_disk_varied_t, dir, "gcp")

# park policy for small polaris process umbrella_init.sh here
gen_require(''
    type polaris_umbrella_init_t;
')
polaris_bootflash_manage(polaris_umbrella_init_t)
corecmd_exec_bin(polaris_umbrella_init_t)
auth_use_nsswitch(polaris_umbrella_init_t)

#define added to address issues related to dependency
#define on mcp-platform-tld for db defines
#define Skip for vpcgw platform
ifndef('vpcgw_platform',
   type polaris_gnmib_t;
')

type polaris_objstore_sem_t;
files_tmpfs_file(polaris_objstore_sem_t)

#define semaphore created by systemd-tmpfiles needs map permission
gen_require('  
   type systemd_tmpfiles_t;
')
mmap_files_pattern(systemd_tmpfiles_t, polaris_objstore_sem_t, polaris_objstore_sem_t)

# on vxe all processes read grub_cisco_version in polaris_disk_varied_t
gen_require('  
   attribute polaris_domain;
')
polaris_disk_varied_search(polaris_domain)

type polaris_grub_bios_t;
polaris_pfile_type(polaris_grub_bios_t)

type polaris_grubver_t;
polaris_pfile_type(polaris_grubver_t)

type polaris_vxeinstall_info_t;
polaris_pfile_type(polaris_vxeinstall_info_t)

#define unconfined service create /boot/install_info if does not exist yet
filetrans_pattern(unconfined_service_t, polaris_disk_varied_t, polaris_vxeinstall_info_t, file, "install_info")

# on C8KV all processes read grubenv in EFI disk partition
gen_require('  
   attribute polaris_domain;
')
polaris_grub_efi_search(polaris_domain)

gen_require('  
   type unconfined_service_t;
   type polaris_disk_varied_t;
')
type polaris_obfl_data_t;

# unconfined service create /boot/obfl_temp_k1/2/3 if does not exist yet
filetrans_pattern(unconfined_service_t, polaris_disk_varied_t, polaris_obfl_data_t, file, "obfl_temp_k1")
filetrans_pattern(unconfined_service_t, polaris_disk_varied_t, polaris_obfl_data_t, file, "obfl_temp_k2")
filetrans_pattern(unconfined_service_t, polaris_disk_varied_t, polaris_obfl_data_t, file, "obfl_temp_k3")

# handle /tmp/vxe_disk_XXX_YYY files
gen_require('}
    type unconfined_service_t;
')
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_mbr_v1")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_mbr_v2")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_mbr_v3")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_mbr_v4")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_gpt_v1")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_gpt_v2")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_gpt_v3")
polaris_boot_tmp_filetrans(unconfined_service_t)
polaris_boot_tmp_manage(unconfined_service_t)

# /etc/init.d/sshd that runs under initrc_t through ssh-keygen
# creates /config/.ssh directory if does not exist; /config
# directory is typically bootflash, but on MBRv2/MBRv4/GPTv1/GPTv3
# partition layouts it could be separate /config partition that is
# under polaris_disk_config_t label
gen_require('}
    type initrc_t;
    type ssh_home_t;
')
polaris_disk_config_filetrans(initrc_t, ssh_home_t, dir, ".ssh")

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisvxe.te
No license file was found, but licenses were detected in source scan.

# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polarisissumonitor, 1.0);

########################################################################
# install_issu_monitor
########################################################################
polaris_process_domain_template(issu_monitor)

corecmd_exec_bin(polaris_issu_monitor_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_issu_monitor_t)

polaris_btrace_data_manage(polaris_issu_monitor_t)
polaris_chasfs_manage(polaris_issu_monitor_t)
polaris_cpld_read(polaris_issu_monitor_t)
polaris_proc_rmonbifo_read(polaris_issu_monitor_t)
polaris_boot_tmp_read(polaris_issu_monitor_t)
polaris_read_debug_conf(polaris_issu_monitor_t)

# read and possibly create /bootflash/installer/issu_crash dir
polaris_bootflash_manage(polaris_issu_monitor_t)

allow polaris_issu_monitor_t self:capability sys_resource;
allow polaris_issu_monitor_t self:process setpgid;

type polaris_issu_monitor_tmp_t;
files_tmp_file(polaris_issu_monitor_tmp_t)
files_tmp_filetrans(polaris_issu_monitor_t, polaris_issu_monitor_tmp_t, dir, "issu_mon_dir")
manage_files_pattern(polaris_issu_monitor_t, polaris_issu_monitor_tmp_t, polaris_issu_monitor_tmp_t)
manage_dirs_pattern(polaris_issu_monitor_t, polaris_issu_monitor_tmp_t, polaris_issu_monitor_tmp_t)
manage_fifo_files_pattern(polaris_issu_monitor_t, polaris_issu_monitor_tmp_t, polaris_issu_monitor_tmp_t, polaris_issu_monitor_tmp_t)

# access to /tmp/ufs/harddisk
optional_policy(''
polaris_ncd_tmp_read(polaris_issu_monitor_t)
')

# access to /bootflash/installer/issu_crash
polaris_disk_install_read(polaris_issu_monitor_t)

# access to /tmp/sw/boot/rmonbifo/env_var.sh
polaris_rmonbifo_tmp_read(polaris_issu_monitor_t)

# read /proc/cmdline
kernel_read_system_state(polaris_issu_monitor_t)

# rm -rf /tmp/rp/issu_mon_dir
fs_getattr_tmpfs(polaris_issu_monitor_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisissumonitor.te
No license file was found, but licenses were detected in source scan.
policy_module(polarisact2, 1.0);

# ACT2 Chip Driver policy

type polaris_act2_device_t;
dev_node(polaris_act2_device_t)

# /tmp/hw_entropy file.
# Certain platforms save entropy from main board ACT-2 chip in this file.

type polaris_hw_entropy_t;
files_tmp_file(polaris_hw_entropy_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisact2.te
No license file was found, but licenses were detected in source scan.

policy_module(polariscppha, 1.0);

gen_require(
       type polaris_cpp_ha_t;
')

polaris_btrace_data_manage(polaris_cpp_ha_t)
polaris_crft_data_manage(polaris_cpp_ha_t)
polaris_chasfs_manage(polaris_cpp_ha_t)
polaris_tdlresolve_read(polaris_cpp_ha_t)
polaris_tdldb_list_dirs(polaris_cpp_ha_t)
polaris_cpld_read(polaris_cpp_ha_t)
polaris_flashlib_read(polaris_cpp_ha_t)
polaris_ripc_sman_ui_serve_conct(polaris_cpp_ha_t)

polaris_db_mdldb_dir_use(polaris_cpp_ha_t)

polaris_cpp_process(polaris_cpp_ha_t)
polaris_cpp_dev_use(polaris_cpp_ha_t)

polaris_icc_broken_relocations(polaris_cpp_ha_t)

polaris_cpp_cavium_sdk_ipc_use(polaris_cpp_ha_t)

# allow objstore access
polaris_disk_objstore_read(polaris_cpp_ha_t)

# LOOK AT ME: raw memory access in cavium vendor SDK
# related to octeon driver (BUG CSCvh58515)
ifdef(`crankshaft_family',`
  polaris_dev_mem_use(polaris_cpp_ha_t)
')

# allow syslogging
logging_send_syslog_msg(polaris_cpp_ha_t)

optional_policy(`
  polaris_cbdma_dev_use(polaris_cpp_ha_t)
')
polaris_cpld_dev_use(polaris_cpp_ha_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppha.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscppsp, 1.0);

gen_require(`
  type polaris_cpp_sp_t;
')
polaris_btrace_data_manage(polaris_cpp_sp_t)
polaris_crft_data_manage(polaris_cpp_sp_t)
polaris_chasfs_manage(polaris_cpp_sp_t)
polaris_tdlresolve_read(polaris_cpp_sp_t)
polaris_tdlldb_list_dirs(polaris_cpp_sp_t)
polaris_cpld_read(polaris_cpp_sp_t)
polaris_flashlib_read(polaris_cpp_sp_t)

polaris_ripc_sman_ui_serv_connect(polaris_cpp_sp_t)
polaris_db_tdlldb_dir_use(polaris_cpp_sp_t)
polaris_cpp_process(polaris_cpp_sp_t)
polaris_cpp_dev_use(polaris_cpp_sp_t)
polaris_icc_broken_relocations(polaris_cpp_sp_t)
polaris_cpp_cavium_sdk_ipc_use(polaris_cpp_sp_t)

# LOOK AT ME: raw memory access in cavium vendor SDK
# related to octeon driver (BUG CSCvh58515)
ifdef(`crankshaft_family',`
polaris_dev_mem_use(polaris_cpp_sp_t)
')

# allow syslogging
logging_send_syslog_msg(polaris_cpp_sp_t)

optional_policy(`
polaris_cbdma_dev_use(polaris_cpp_sp_t)
')
polaris_cpld_dev_use(polaris_cpp_sp_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppsp.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/reflector.sh -- gen_context(system_u:object_r:polaris_reflector_exec_t,s0)
/tmp/rp/reflector(/.*)? gen_context(system_u:object_r:polaris_reflector_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisreflector.fc
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarissifmgr, 1.0);

gen_require('  
    type polaris_sif_mgr_t;
')

polaris_btrace_data_manage(polaris_sif_mgr_t)
polaris_crft_data_manage(polaris_sif_mgr_t)
polaris_chasfs_manage(polaris_sif_mgr_t)
polaris_tdlresolve_read(polaris_sif_mgr_t)
polaris_tlddb_list_dirs(polaris_sif_mgr_t)
polaris_cpld_read(polaris_sif_mgr_t)
polaris_lua_read(polaris_sif_mgr_t)
polaris_flashlib_read(polaris_sif_mgr_t)

#if romvar is not set, Set Rommon env varaible needs write permission
polaris_flashlib_write(polaris_sif_mgr_t)

polaris_ripc_sman_ui_serv_connect(polaris_sif_mgr_t)

corecmd_exec_bin(polaris_sif_mgr_t)
corecmd_exec_shell(polaris_sif_mgr_t)

 # allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_sif_mgr_t)

 # allow to read /proc/mtd
kernel_read_system_state(polaris_sif_mgr_t)

#allow write /proc/dpfr_sesa
optional_policy('  
    polaris_proc_sesa_create_write(polaris_sif_mgr_t)
')

 # access SERDES /tmp/serdes_asic_key_dir/*
polaris_serdes_asic_key_tmp_manage(polaris_sif_mgr_t)

 # allow read/write to /proc/irq/N/irq files
kernel_rwlock_sysctls(polaris_sif_mgr_t)

# work with /tmp files (/tmp/sm_post_result)
type polaris_sif_mgr_tmp_t;
files_tmp_file(polaris_sif_mgr_t, polaris_sif_mgr_tmp_t)
files_tmp_filetrans(polaris_sif_mgr_t, polaris_sif_mgr_tmp_t, file, "sm_post_result")
files_tmp_filetrans(polaris_sif_mgr_t, polaris_sif_mgr_tmp_t, file, "fips_status")
files_tmp_filetrans(polaris_sif_mgr_t, polaris_sif_mgr_tmp_t, file, "sif_regdump_0")
files_tmp_filetrans(polaris_sif_mgr_t, polaris_sif_mgr_tmp_t, file, "sif_regdump_1")
manage_files_pattern(polaris_sif_mgr_t, tmp_t, polaris_sif_mgr_tmp_t)
polaris_cm_rp_tmp_manage(polaris_sif_mgr_t)

#allow ipc_lock when mmap64(...) a shared memory with MAP_LOCKED in dplr_pkt_drv_oob.c
allow polaris_sif_mgr_t self:capability { ipc_owner dac_override ipc_lock };

#allow read from /tmp/hw_entropy
polaris_hw_entropy_read(polaris_sif_mgr_t)

polaris_obf_data_manage(polaris_sif_mgr_t)

#/dev/dplr_intrpt usage
polaris_dplr_dev_use(polaris_sif_mgr_t)

#/dev/dmammap usage
polaris_dmammap_dev_use(polaris_sif_mgr_t)

#/dev/remap_mem0 usage
polaris_remap_mem_dev_use(polaris_sif_mgr_t)

polaris_lsmpi_dev_use(polaris_sif_mgr_t)

# open /dev/ttyS0 console in sco_sys_init_sw_params
term_use_unallocated_ttys(polaris_sif_mgr_t)
polaris_socketat_nsfs_read(polaris_sif_mgr_t)

allow polaris_sif_mgr_t self:process setsched;

#/dev/hsi/Slot0/Doppler0/GroupN files
dev_rw_generic_chr_files(polaris_sif_mgr_t)
#/dev/hsi/Slot0/Doppler0/GroupN gets polaris_dplr_device_t label
# at some point, but need above generic chr permission by some
# reason, not clear need to look a bit more
polaris_dplr_dev_use(polaris_sif_mgr_t)

# set out of band interface mac set_oobndif_mac
allow polaris_sif_mgr_t self:tcp_socket ioctl;
# LOOK AT ME: raw memory write access
polaris_dev_mem_use(polaris_sif_mgr_t)

# /dev/shm/sdm access
optional_policy(
    polaris_sdm_shm_manage(polaris_sif_mgr_t)
)

# LOOK AT ME: unsolicited creation of file in /bootflash
# by CSCvm43512. Backout when CSCvm99282 is fixed
polaris_bootflash_manage(polaris_sif_mgr_t)
polaris_disk_bootflash_read_link(polaris_sif_mgr_t)

optional_policy(
    polaris_quake_i2c_manage(polaris_sif_mgr_t)
)

# __get_nprocs opens /sys/devices/system/cpu/online
ifdef("quake_platform",
    dev_read_sysfs(polaris_sif_mgr_t)
)

optional_policy(
    polaris_ngwc_scc_shm_manage(polaris_sif_mgr_t)
)

Found in path(s):
  */opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissifmgr.te
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

# polariswncmgrd file contexts place holder

#gRPC certificate for ICap, written and read by wncmgrd
/bootflash/NACert.pem   gen_context(system_u:object_r:polaris_icap_cert_t,s0)

Found in path(s):
  */opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswncmgrd.fc
No license file was found, but licenses were detected in source scan.

dnl
dnl July 2020, Victor Kamensky
Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6  800

dnl
dnl Copyright (c) 2020 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl ISRV Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 3)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_ripc_map_set(`rp', `per_bay', 0)
max_bay_ripc_map_set(`cc', `per_bay', 3)
max_bay_ripc_map_set(`fp', `per_bay', 0)

max_bay_ripc_map_set(`rp', `global', 0)
max_bay_ripc_map_set(`cc', `global', 3)
max_bay_ripc_map_set(`fp', `global', 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/isrvmaps.m4
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarismcp, 1.0);

# scooby device
type polaris_scooby_device_t;
dev_node(polaris_scooby_device_t)

# spa devices i.e sys_platform_module_1ng
type polaris_spa_device_t;
dev_node(polaris_spa_device_t)

# htdp device
type polaris_htdp_device_t;
dev_node(polaris_htdp_device_t)

# epaN and epactrlN devices
type polaris_epa_device_t;
dev_node(polaris_epa_device_t)

# luna_fpgs device
type polaris_luna_mbfpga_device_t;
# dash fpga device (/dev/dash_fpga)
    dev_node(polaris_dash_device_t)

# astro device
    dev_node(polaris_astro_device_t)

# cpp_il device
    dev_node(polaris_CPP/il_device_t)

# blzi_fpga device
    dev_node(polaris_blzi_device_t)

# oob_evfc device
    dev_node(polaris_oob_evfc_device_t)

# ds31408 device
    dev_node(polaris_ds31408_device_t)

# icp_ads_ctl device
    ifndef(`fugazi_platform',`
        dev_node(polaris_icp_device_t)
    ')

    dev_node(polaris_CPP/htdp_device_t)

    dev_node(polaris_cbdma_device_t)

    dev_node(polaris_n2_device_t)

    dev_node(polaris_cy2213_device_t)

    dev_node(polaris_vega_device_t)
# Fugazi makes use of fugazi_platform.tdl for IPCs and processes definition
# and it uses mcp_platform.tdl for databases definition. The below symbols
# are referred by mcp_platform.tdl but not fugazi_platform.tdl and hence these
# type definitions.
ifdef('fugazi_platform',`
  type polaris_fnf_agg_t;
`) 
optional_policy(`
  # access to /dev/icp_XXX device on asr1k platforms
  gen_require(`
    type polaris_cck_qat_t;
  `)
  polaris_icp_dev_use(polaris_cck_qat_t)
  dev_list_sysfs(polaris_cck_qat_t)
  polaris_chasfs_read(polaris_cck_qat_t)
  polaris_cpld_read(polaris_cck_qat_t)
  polaris_tdlresolve_read(polaris_cck_qat_t)
`) 

# Handling denial for rsync_t for socket -
# comm="rsync" path="/socket:[16784]" dev="sockfs" ino=16784
# scontext=system_u:system_r:rsync_t:s0 tcontext=system_u:system_r:init_t:s0
ifdef('rsync_t',`
  type rsync_t;
`) 
init_rw_stream_sockets(rsync_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismcp.te
No license file was found, but licenses were detected in source scan.

#
# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

# polarisioxman file contexts place holder
/usr/binos/conf/shell_exec.sh -- gen_context(system_u:object_r:polaris_iox_shell_exec_t,s0)
/usr/binos/conf/run_ioxn_secure_dir.sh -- gen_context(system_u:object_r:polaris_iox_secure_dir_exec_t,s0)
/bin/cat9k_ssd_auth_cmds.sh -- gen_context(system_u:object_r:polaris_ssd_auth_exec_t,s0)
/tmp/trace/resource.log -- gen_context(system_u:object_r:polaris_iox_tmp_t,s0)
August 2017, Victor Kamensky

Copyright (c) 2017-2020 by Cisco Systems, Inc.
All rights reserved

policy_module(polarisbsm, 1.0);

gen_require(''
    type polaris_bsm_t;
')

polaris_btrace_data_manage(polaris_bsm_t)
polaris_chasfs_manage(polaris_bsm_t)
polaris_tdlresolve_read(polaris_bsm_t)
polaris_tdlldb_list_dirs(polaris_bsm_t)
polaris_cpld_read(polaris_bsm_t)
polaris_flashlib_read(polaris_bsm_t)

polaris_ripc_sman_ui_serv_connect(polaris_bsm_t)

optional_policy(''
polaris_bde_dev_use(polaris_bsm_t)
')

allow polaris_bsm_t self:capability sys_nice;
allow polaris_bsm_t self:process setsched;

# need access to /sys/devices/system/cpu/online
dev_read_sysfs(polaris_bsm_t)

# handling /var/tmp/bsm_bcm_shell
type polaris_bsm_bcm_shell_t;
files_type(polaris_bsm_bcm_shell_t)
gen_require(''
type tmp_t;
')
filetrans_pattern(polaris_bsm_t, tmp_t, polaris_bsm_bcm_shell_t, fifo_file, "bsm_bcm_shell")
manage_fifo_files_pattern(polaris_bsm_t, tmp_t, polaris_bsm_bcm_shell_t)
ifdef(`vxe_family',`
    # bind to BSM_AGENT_CLIENT_PORT port from bsm_tlv_init
    corenet_tcp_bind_polaris_bsm_agent_client_port(polaris_bsm_t)
    )

    # LOOK AT ME: raw memory write access
    polaris_dev_mem_use(polaris_bsm_t)

    Found in path(s):
    * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbsm.te
    No license file was found, but licenses were detected in source scan.

    #
    # March 2017, Victor Kamensky
    #
    # Copyright (c) 2017-2019 by Cisco Systems, Inc.
    # All rights reserved
    #

    /tmp/sm_post_result -- gen_context(system_u:object_r:polaris_sif_mgr_tmp_t,s0)
    /tmp/fips_status -- gen_context(system_u:object_r:polaris_sif_mgr_tmp_t,s0)

    Found in path(s):
    * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissifmgr.fc
    No license file was found, but licenses were detected in source scan.

    #
    # June 2020, Cuiyan Ma
    #
    # Copyright (c) 2020 by Cisco Systems, Inc.
    # All rights reserved
    #

    ## <summary>Polaris polarisissucompcheck Policy Rules.</summary>

    Found in path(s):
    * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisissucompcheck.if
    No license file was found, but licenses were detected in source scan.

    #
    # March 2017, Victor Kamensky
    #
    # Copyright (c) 2017-2019 by Cisco Systems, Inc.
    # All rights reserved
    #

    policy_module(polarisngwcplfmmgr, 1.0);
gen_require(' 
    type polaris_ngwc_plfm_mgr_t; 
')

polaris_btrace_data_manage(polaris_ngwc_plfm_mgr_t)
polaris_crft_data_manage(polaris_ngwc_plfm_mgr_t)
polaris_chasfs_manage(polaris_ngwc_plfm_mgr_t)
polaris_tdlresolve_read(polaris_ngwc_plfm_mgr_t)
polaris_tdldb_list_dirs(polaris_ngwc_plfm_mgr_t)
polaris_cpld_read(polaris_ngwc_plfm_mgr_t)
polaris_lua_read(polaris_ngwc_plfm_mgr_t)
polaris_flashlib_read(polaris_ngwc_plfm_mgr_t)

polaris_ripc_sman_ui_serv_connect(polaris_ngwc_plfm_mgr_t)

corecmd_exec_bin(polaris_ngwc_plfm_mgr_t)
corecmd_exec_shell(polaris_ngwc_plfm_mgr_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_ngwc_plfm_mgr_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_ngwc_plfm_mgr_t)

allow polaris_ngwc_plfm_mgr_t self:capability { sys_rawio ipc_owner dac_override };
allow polaris_ngwc_plfm_mgr_t self:capability2 block_suspend;

polaris_obfl_data_manage(polaris_ngwc_plfm_mgr_t)

polaris_dyncfg_tmp_read(polaris_ngwc_plfm_mgr_t)

polaris_ngwc_shm_manage(polaris_ngwc_plfm_mgr_t)

# /dev/dmammap usage
polaris_dmammap_dev_use(polaris_ngwc_plfm_mgr_t)

# /dev/remap_mem0 usage
polaris_remap_mem_dev_use(polaris_ngwc_plfm_mgr_t)

# open /dev/ttyS0 console in edison_platform_init
term_use_unallocated_ttys(polaris_ngwc_plfm_mgr_t)

polaris_disk_license_read(polaris_ngwc_plfm_mgr_t)

allow polaris_ngwc_plfm_mgr_t self:capability { chown fowner fsetid };

type polaris_ngwc_plfm_mgr_tmp_t;
files_tmp_file(polaris_ngwc_plfm_mgr_tmp_t)
files_tmp_filetrans(polaris_ngwc_plfm_mgr_t, polaris_ngwc_plfm_mgr_tmp_t, file, "pm_post_result")
files_tmp_filetrans(polaris_ngwc_plfm_mgr_t, polaris_ngwc_plfm_mgr_tmp_t, dir, "microcode_update")
files_tmp_filetrans(polaris_ngwc_plfm_mgr_t, polaris_ngwc_plfm_mgr_tmp_t, dir, "mcu_upgrading")
manage_files_pattern(polaris_ngwc_plfm_mgr_t, polaris_ngwc_plfm_mgr_tmp_t, polaris_ngwc_plfm_mgr_tmp_t)
manage_dirs_pattern(polaris_ngwc_plfm_mgr_t, polaris_ngwc_plfm_mgr_tmp_t, polaris_ngwc_plfm_mgr_tmp_t)

# LOOK AT ME: raw memory write access
polaris_dev_mem_use(polaris_ngwc_plfm_mgr_t)

# create /tmp/hw_entropy file and fill with info from act2
polaris_hw_entropy_create(polaris_ngwc_plfm_mgr_t)

polaris_boot_tmp_read(polaris_ngwc_plfm_mgr_t)

polaris_flashlib_write(polaris_ngwc_plfm_mgr_t)

# check existence of /tmp/tam_cfg_done
polaris_tam_getattrs_tmp_dirs(polaris_ngwc_plfm_mgr_t)

# LOOK AT ME: Allow access to bootflash /flash/tam_client_app.log. file access
# remove after CSCvh66533 fixed
polaris_bootflashmanage(polaris_ngwc_plfm_mgr_t)

# scans /sys/devices/pci0000:00/0000:00:00.0
dev_read_sysfs(polaris_ngwc_plfm_mgr_t)

# rsync nvram_config file across stack
# rsync_exec(polaris_ngwc_plfm_mgr_t)
gen_require(''
    type rsync_t;
')
rsync_entry_domtrans(polaris_ngwc_plfm_mgr_t, rsync_t)
allow rsync_t polaris_ngwc_plfm_mgr_t:process sigchld;
# write access to /dev/ttyS0
term_write_unallocated_ttys(rsync_t)

# reads from, populates chasfs with values and deletes /tmp/package_biv_sums
polaris_kgv_data_manage(polaris_ngwc_plfm_mgr_t)

# /dev/shm/sdm access
optional_policy(''
polaris_sdm_shm_manage(polaris_ngwc_plfm_mgr_t)
')

# platform manager moves 00001.nvram_config file to /bootflash/nvram_config
polaris_nvram_manager(polaris_ngwc_plfm_mgr_t)
allow polaris_ngwc_plfm_mgr_t self:process setfscreate;
policy_module(polarisgrmgr, 1.0);

gen_require(
    type polaris_gr_mgr_t;
)

polaris_crft_data_manage(polaris_gr_mgr_t)
polaris_chasfs_manage(polaris_gr_mgr_t)
polaris_tdlresolve_read(polaris_gr_mgr_t)
polaris_cpld_read(polaris_gr_mgr_t)
polaris_lua_read(polaris_gr_mgr_t)

polaris_rpc_sman_ui_serv_connect(polaris_gr_mgr_t)

allow polaris_gr_mgr_t self:capability [ dac_override dac_read_search ];

#DB persistence
polaris_tdldbpersist_setup(polaris_gr_mgr_t)
# July 2018, Victor Kamensky
#
# Copyright (c) 2018-2020 by Cisco Systems, Inc.
# All rights reserved
#

/tmp/idope_svr  gen_context(system_u:object_r:polaris_fed_debug_sock_t,s0)
/tmp/shfwd_svr  gen_context(system_u:object_r:polaris_fed_debug_sock_t,s0)

/tmp/pktgen.txt  gen_context(system_u:object_r:polaris_fed_debug_tmp_t,s0)
/tmp/DopeElam.sh  gen_context(system_u:object_r:polaris_fed_debug_tmp_t,s0)
/tmp/MemDumpElam.sh  gen_context(system_u:object_r:polaris_fed_debug_tmp_t,s0)

/dcmlog.txt  --  gen_context(system_u:object_r:polaris_fed_debug_dcmlog_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwcfeddebug.fc
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscpld, 1.0);

###############################################################################
# CPLD Driver policy
###############################################################################

# note polaris_sysfs_cpld_t is defined in kernel/devices.te, since genfscon statements
# could be only in base policy

type polaris_cpld_device_t;
dev_node(polaris_cpld_device_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscpld.te
No license file was found, but licenses were detected in source scan.

# August 2017, Shawn Lu
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
policy_module(polarisrogued, 1.0);

gen_require(
   type polaris_rogued_t;
)

polaris_btrace_data_manage(polaris_rogued_t)
polaris_chasfs_manage(polaris_rogued_t)
polaris_tdlresolve_read(polaris_rogued_t)
polaris_tdlldb_list_dirs(polaris_rogued_t)
polaris_cpld_read(polaris_rogued_t)
polaris_lua_read(polaris_rogued_t)
polaris_flashlib_read(polaris_rogued_t)
polaris_ripc_sman_ui_serv_connect(polaris_rogued_t)
polaris_db_tdlldb_dir_use(polaris_rogued_t)

# allow to use setrlimit
allow polaris_rogued_t self:process setrlimit;
allow polaris_rogued_t self:capability sys_resource;
allow polaris_rogued_t self:capability dac_override;

# stuff related to vrf support of the socket
polaris_lfts_dev_use(polaris_rogued_t)
polaris_socketat_nsfs_read(polaris_rogued_t)

## allow to open udp socket on RDLP port 6532
corenet_udp_bind_polaris_rdlp_port(polaris_rogued_t)
corenet_udp_bind_generic_node(polaris_rogued_t)
allow polaris_rogued_t self:udp_socket { create_socket_perms recv_msg send_msg };

# reading images/ap_capabilities.xml
polaris_wlc_ap_images_read(polaris_rogued_t)

# syslogs in RLDP
logging_send_syslog_msg(polaris_rogued_t)

#DB persistence
polaris_tdlldbpersist_setup(polaris_rogued_t)
polaris_tmp_tdlldb_persist_setup(polaris_rogued_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrogued.te
No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky  
#  
# Copyright (c) 2017-2019 by Cisco Systems, Inc.  
# All rights reserved  
#  

policy_module(polariscmm, 1.0);

gen_require(  
    type polaris_cmm_t;  
  )

polaris_btrace_data_manage(polaris_cmm_t)
polaris_crft_data_manage(polaris_cmm_t)
polaris_chasfs_manage(polaris_cmm_t)
polaris_tdlresolve_read(polaris_cmm_t)
polaris_tdlldb_list_dirs(polaris_cmm_t)
polaris_cpld_read(polaris_cmm_t)
polaris_flashlib_read(polaris_cmm_t)
polaris_ripc_sman_ui_serv_connect(polaris_cmm_t)

allow polaris_cmm_t self:capability dac_override;

Found in path(s):  
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmm.te

No license file was found, but licenses were detected in source scan.

dnl All rights reserved

Found in path(s):  
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_base_ripc_if.m4
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_mqipc_fc.m4
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_process_fc.m4

No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky  
#  
# Copyright (c) 2016-2019 by Cisco Systems, Inc.  
# All rights reserved  
#  

# polarisofa file contexts place holder
policy_module(polariscraf, 1.0);

gen_require(  
    type polaris_caf_t;
    type polaris_caf_exec_t;
    type usr_t;
  )

ifdef(‘nyquist_platform’,  
  gen_require(  
    type polaris_sioxcd_rp_t;
  )
# Allow read of /etc/passwd  
auth_map_passwd(polaris_sioxcd_rp_t)

# Allow usage of ls in helper script  
corecmd_exec_bin(polaris_sioxcd_rp_t)

# Allow sysfs read  
dev_list_sysfs(polaris_sioxcd_rp_t)

# Allow create/write/open of files under tmp  
type polaris_sioxcd_rp_tmp_t;  
files_tmp_file(polaris_sioxcd_rp_tmp_t)  
files_tmp_filetrans(polaris_sioxcd_rp_t, polaris_sioxcd_rp_tmp_t, { dir file })  
manage_dirs_pattern(polaris_sioxcd_rp_t, polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t)  
manage_files_pattern(polaris_sioxcd_rp_t, polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t)  
manage_fifo_files_pattern(polaris_sioxcd_rp_t, polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t)  

# Allow losetup in helper script to run in its own domain  
fstools_domtrans(polaris_sioxcd_rp_t)

# Allow mount/umount in its own domain  
mount_domtrans(polaris_sioxcd_rp_t)

# Allow /tmp/sw/boot read  
polaris_boot_tmp_read(polaris_sioxcd_rp_t)
# Allow /tmp/tmppub read
polaris_btrace_tmppub_read(polaris_sioxcd_rp_t)

# Allow iox_polaris.conf read
polaris_caf_files_read(polaris_sioxcd_rp_t)

# Allow chasfs access
polaris_chasfs_manage(polaris_sioxcd_rp_t)

# Allow /sys/devices/platform/cpld/board_vtype read
polaris_cpld_read(polaris_sioxcd_rp_t)

# Allow debug.conf access
polaris_read_debug_conf(polaris_sioxcd_rp_t)

# Allow cats /tmp/sw/boot/rmonbifo/boardsubtype
polaris_rmonbifo_tmp_read(polaris_sioxcd_rp_t)

# Allow console logging
term_open_unallocated_ttys(polaris_sioxcd_rp_t)

# Allow capability 1/24 access
allow polaris_sioxcd_rp_t self:capability { dac_override sys_resource };

# Transition to chvrf domain needed by push_using_rsync
polaris_chvrf_domtrans(polaris_sioxcd_rp_t)

# Allow flashutil
polaris_flashlib_read(polaris_sioxcd_rp_t)

# logger needs to run pidof
dev_read_sysfs(polaris_sioxcd_rp_t)
kern_read_system_state(polaris_sioxcd_rp_t)
domain_read_all_domains_state(polaris_sioxcd_rp_t)

# Manage alternate hdd files
polaris_iox_alt_hdd_manage(polaris_sioxcd_rp_t)

# Allow ls /tmp/ufs/crashinfo
optional_policy(`
polaris_ncd_tmp_read(polaris_sioxcd_rp_t)
`)

# Allow logger which is used for syslog messages
allow polaris_sioxcd_rp_t self:unix_dgram_socket { connect create };
logging_send_syslog_msg(polaris_sioxcd_rp_t)
# Allow standby to access /dev/sda3
fs_getattr_xattr_fs(polaris_sioxcd_rp_t)

# Allow getattr under iox_alt_hdd_mount_dir
polaris_iox_alt_hdd_getattr(polaris_sioxcd_rp_t)

polaris_chasfs_manage(polaris_caf_t)
polaris_btrace_data_manage(polaris_caf_t)
polaris_cpld_read(polaris_caf_t)
polaris_boot_tmp_read(polaris_caf_t)

# run ldd, which in turn execve "ld.so --verify"
libs_exec_ld_so(polaris_caf_t)

corecmd_exec_bin(polaris_caf_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_caf_t)

# run-caf.sh invokes startup.py. This leads to node_t:tcp_socket node_bind
corenet_tcp_bind_generic_node(polaris_caf_t)

allow polaris_caf_t self:capability { net_admin sys_resource };
allow polaris_caf_t self:tcp_socket { accept listen create_socket_perms };
allow polaris_caf_t self:udp_socket create_socket_perms;
allow polaris_caf_t self:unix_dgram_socket { create_socket_perms sendto };
allow polaris_caf_t self:cap_usersns { sys_admin sys_ptrace setgid setuid sys_chroot };

# df needs to have getattr on many file/dir/fs
fs_getattr_all_fs(polaris_caf_t)
fs_getattr_all_files(polaris_caf_t)
files_getattr_all_dirs(polaris_caf_t)
dev_getattr_all_chr_files(polaris_caf_t)
files_getattr_all_mountpoints(polaris_caf_t)

# df on "/" needs fs_t:filesystem getattrib
fs_getattr_xattr_fs(polaris_caf_t)

# allow execution of /usr/sbin/brctl
brctl_domtrans(polaris_caf_t)

#allow open/read/search cgroup files like /sys/fs/cgroup/cpu,cputacct/machine
fs_read_cgroup_files(polaris_caf_t)
fs_list_cgroup_dirs(polaris_caf_t)

# add new type for /guestshell files and allow CAF to manage them
type polaris_guestshell_t;
files_type(polaris_guestshell_t)
manage_files_pattern(polaris_caf_t, polaris_guestshell_t, polaris_guestshell_t)
manage_lnk_files_pattern(polaris_caf_t, polaris_guestshell_t, polaris_guestshell_t)
manage_dirs_pattern(polaris_caf_t, polaris_guestshell_t, polaris_guestshell_t)

#required to support, guestshell enable, which creates /iox-storage/iox/repo/guestshell
relabelto_files_pattern(polaris_caf_t, polaris_guestshell_t, polaris_guestshell_t)

# run_ioxn_caf.sh invokes run-caf.sh which executes "ip"
sysnet_domtrans_ifconfig(polaris_caf_t)
# allow netns operations
sysnet_manage_ifconfig_run(polaris_caf_t)

libs_domtrans_ldconfig(polaris_caf_t)

# add new type for /bootflash/iox files and allow CAF to manage them
type polaris_iox_files_t;
polaris_disk_type(polaris_iox_files_t)
polaris_iox_files_manage(polaris_caf_t)

# need open, read, ioctl, getattrs on /bootflash/debug.conf
polaris_read_debug_conf(polaris_caf_t)

# run_ioxn_caf.sh cats /tmp/sw/boot/monbifo/boardsubtype
polaris_monbifo_tmp_read(polaris_caf_t)

# pvsm_cpu.sh reads /tmp/cgroup.log
optional_policy(
  polaris_vman_tmp_manage(polaris_caf_t)
  )

# allow to read /proc/cpuinfo
kernel_read_system_state(polaris_caf_t)

optional_policy(
  container_runtime_domtrans(polaris_caf_t)
  )

# add new type for /opt/cisco/caf files and allow CAF to manage them
type polaris_caf_files_t;
files_type(polaris_caf_files_t)
files_root_filetrans(polaris_caf_t, polaris_caf_files_t, dir)
files_root_filetrans(polaris_caf_t, polaris_caf_exec_t, dir, "scripts")
manage_dirs_pattern(polaris_caf_t, polaris_caf_files_t, polaris_caf_files_t)
manage_files_pattern(polaris_caf_t, polaris_caf_files_t, polaris_caf_files_t)
manage_lnk_files_pattern(polaris_caf_t, polaris_caf_files_t, polaris_caf_files_t)

gen_require('}
type polaris_hm_t;
')
polaris_caf_files_read(polaris_hm_t)

# this label is created for sharing of core file dirs between host and containers
type polaris_caf_core_files_t;
polaris_disk_type(polaris_caf_core_files_t)
# transition /local files and dirs
files_root_filetrans(polaris_caf_t, polaris_caf_core_files_t, dir, "local")
polaris_btrace_data_manage(polaris_caf_core_files_t)
manage_files_pattern(polaris_caf_core_files_t, usr_t, usr_t)

# manage local core files between host and container
polaris_caf_local_core_files_manage(polaris_caf_t)
polaris_caf_local_core_files_manage(brctl_t)

# run_ioxn_caf.sh invokes startup.py that eventually through resourcemanager.py
# calls cpu_count_logical function in order to get number of cores and which
# needs read access to /sys/devices/system/cpu/online
dev_read_sysfs(polaris_caf_t)

# run-caf.sh modifies iox_polaris.conf; backup is saved due to "sed-i.bak".
# in order to preserve security context, setfscreate is invoked
allow polaris_caf_t self:process setfscreate;

# work with /var/log/caf/ files
type polaris_caf_log_t;
logging_log_file(polaris_caf_log_t)
manage_files_pattern(polaris_caf_t, polaris_caf_log_t, polaris_caf_log_t)
manage_dirs_pattern(polaris_caf_t, polaris_caf_log_t, polaris_caf_log_t)
logging_log_filetrans(polaris_caf_t, polaris_caf_log_t, dir, "caf")
logging_log_filetrans(polaris_caf_t, polaris_caf_log_t, dir, "docker")
corenet_tcp_bind_polaris_caf_api_port(polaris_caf_t)
virt_stream_connect(polaris_caf_t)
virt_read_config(polaris_caf_t)

# allow to get getattr of /proc file system
domain_read_all_domains_state(polaris_caf_t)

# allow access to /etc/guestshell_rsa_key* files
type polaris_guestshell_ssh_key_t;
files_type(polaris_guestshell_ssh_key_t)
files_etc_filetrans(polaris_caf_t, polaris_guestshell_ssh_key_t, file, "guestshell_rsa_key")
files_etc_filetrans(polaris_caf_t, polaris_guestshell_ssh_key_t, file, "guestshell_rsa_key.pub")
manage_files_pattern(polaris_caf_t, polaris_guestshell_ssh_key_t, polaris_guestshell_ssh_key_t)
# add new type for "internal" temp files created by underlying python modules when
# user-level python scripts (e.g., run IOXN CAF, run-Caf, etc) performs init;
# we are now creating them using TMPDIR=/tmp/caf; and, allow CAF to manage these
# internal temp files; in addition, underlying python-infra invokes __mmap() that
# somehow translates to... execute stuff like "/tmp/caf/#97893 (deleted)"

type polaris_caf_tmp_files_t;
files_tmp_file(polaris_caf_tmp_files_t)
files_tmp_filetrans(polaris_caf_t, polaris_caf_tmp_files_t, dir)
files_tmp_filetrans(polaris_caf_t, polaris_caf_tmp_files_t, file)
manage_files_pattern(polaris_caf_t, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)
manage_dirs_pattern(polaris_caf_t, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)

# python through libffi tries to mmap open file with PROT_EXEC, it triggers need
# for execute permission
allow polaris_caf_t polaris_caf_tmp_files_t:file execute;
allow polaris_caf_t polaris_caf_tmp_files_t:file map;

# python3 seems to do a setxattr syscall
# A folder like /bootflash/iox/repo/guestshell/extract_archive
# contains files that are extracted from a tarball and are
# made polaris_caf_tmp_files_t because of the files_tmp_filetrans rule
relabel_files_pattern(polaris_caf_t, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)
relabel_files_pattern(polaris_caf_t, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)

# allow to run e2fsck in its own domain
fstools_domtrans(polaris_caf_t)

# allow to run mount in its own domain
mount_domtrans(polaris_caf_t)

# add new type for /guestshell/*.sh files
type polaris_guestshell_exec_t;
files_type(polaris_guestshell_exec_t)

# add new type for /var/run/netns/guestshell
type polaris_guestshell_var_run_t;
files_type(polaris_guestshell_var_run_t)

# add new type for /var/run/cisco_cli
type polaris_caf_var_run_t;
files_pid_file(polaris_caf_var_run_t)
manage_dirs_pattern(polaris_caf_t, polaris_caf_var_run_t, polaris_caf_var_run_t)
manage_files_pattern(polaris_caf_t, polaris_caf_var_run_t, polaris_caf_var_run_t)
files_pid_filetrans(polaris_caf_t, polaris_caf_var_run_t, { file dir })

# Intermediate step: When CAF unpacks the contents of the application
# you upload, it will stage the contents somewhere and verify some checks
# (filesystem check on the disk image, existence of several folders, etc.). Disk
# images are mounted without any label since CAF has not generated security
labels yet for the app at this point. The disk gets unmounted and eventually
gets mounted again with the proper context/label.

type polaris_disk_caf_t;
polaris_disk_type(polaris_disk_caf_t)
list_dirs_pattern(polaris_caf_t, polaris_disk_caf_t, polaris_disk_caf_t)

allow polaris_caf_t self:capability { chown dac_override fowner fsetid setfcap sys_chroot sys_ptrace };
allow polaris_caf_t self:process setcap;
fs_read_nsfs_files(polaris_caf_t)

dev_rw_loop_control(polaris_caf_t)

# PLEASE LOOK AT ME
# allow caf to read, write /dev/loopN devices that are
# under fixed_disk_device_t label. It is pretty strong premission
# and at this point it is only done for /dev/loopN devices.
# Can we do better? i.e move /dev/loopN to some other label?
storage_manage_fixed_disk(polaris_caf_t)

# caf executing chroot via bash
gen_require(`
  type svirt_sandbox_file_t;
  ')
allow polaris_caf_t svirt_sandbox_file_t:file { execute execute_no_trans };

gen_require(`
  type polaris_disk_bootflash_t;
  type polaris_disk_harddisk_t;
  ')
setattr_dirs_pattern(polaris_caf_t, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
replicating policy done for polaris_disk_bootflash_t
setattr_dirs_pattern(polaris_caf_t, polaris_disk_harddisk_t, polaris_disk_harddisk_t)

# caf connects to its own port 8098
corenet_tcp_connect_polaris_caf_api_port(polaris_caf_t)

virt_manage_sandbox_files(polaris_caf_t)

kernel_read_network_state(polaris_caf_t)

polaris_bootflash_manage(polaris_caf_t)
polaris_bootflash_files_mmap(polaris_caf_t)
allow polaris_disk_harddisk_t manage like polaris_disk_bootflash_t
polaris_harddisk_manage(polaris_caf_t)

# caf execve virsh
gen_require(`
type virsh_t;
type virsh_exec_t;
')
domtrans_pattern(polaris_caf_t, virsh_exec_t, virsh_t)
# virsh needs to read /opt/cisco/caf/scripts/ioeobebr.xml
polaris_caf_files_read(virsh_t)

# caf calls tipc-config that works with tipc sockets
allow polaris_caf_t self:socket create_socket_perms;
allow polaris_caf_t self:netlink_generic_socket { create_socket_perms sendto recvfrom };

# get and set attrs on httpd_var_run_t under /bootflash/iox
gen_require('
    type httpd_var_run_t;
')
getattr_sock_files_pattern(polaris_caf_t, httpd_var_run_t, httpd_var_run_t)
setattr_sock_files_pattern(polaris_caf_t, httpd_var_run_t, httpd_var_run_t)
manage_dirs_pattern(polaris_caf_t, httpd_var_run_t, httpd_var_run_t)
# allow TCP connection for http port e.g. Local Manager
corenet_tcp_connect_http_port(polaris_caf_t)

# execute lvm commands, like lvs
lvm_domtrans(polaris_caf_t)

polaris_disk_crashinfo_getattr(polaris_caf_t)
optional_policy('
polaris_ncd_tmp_read(polaris_caf_t)
')
logging_send_syslog_msg(polaris_caf_t)

# tries to load KLM like cuse, fuse, overlay
modutils_domtrans_insmod(polaris_caf_t)

# modifies files under /var/www/features/iox
apache_manage_sys_content(polaris_caf_t)

# caf reads version of ioxman from its executable
polaris_ioxman_exec_read(polaris_caf_t)
polaris_ioxman_show_version(polaris_caf_t)

# On stargazer platform /vol/disk0 is used by iox to create below dirs.
# On nyquist platform /vol/usb1 with polaris_disk_harddisk_t is used
# Transition them to appropriate labels.
gen_require('    type container_var_lib_t;
')

filetrans_pattern(polaris_caf_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_alt_hdd_files_t }, polaris_iox_files_t, dir, "iox")
filetrans_pattern(polaris_caf_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_alt_hdd_files_t }, polaris_caf_tmp_files_t, dir, "caf")
filetrans_pattern(polaris_caf_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_alt_hdd_files_t polaris_iox_files_t }, container_var_lib_t, dir, "docker")
filetrans_pattern(polaris_caf_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_alt_hdd_files_t }, polaris_iox_files_t, dir, "iox_data_share")
filetrans_pattern(polaris_caf_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_alt_hdd_files_t }, polaris_iox_files_t, dir, "iox_host_data_share")

# Allow files under guest-share directory which is shared between ios
# and container
type polaris_iox_shared_files_t;
files_type(polaris_iox_shared_files_t)
polaris_pfile_type(polaris_iox_shared_files_t)
manage_dirs_pattern(polaris_caf_t, polaris_iox_shared_files_t, polaris_iox_shared_files_t)
filetrans_pattern(polaris_caf_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_alt_hdd_files_t }, polaris_iox_shared_files_t, dir, "guest-share")

# Allow signature verification of applications
gen_require('    type polaris_code_verify_t;
')
polaris_iox_files_manage(polaris_code_verify_t)

# allow caf to control /tmp/trace/resource.log
polaris_iox_manage_tmp_files(polaris_caf_t)

# some utility running under caf needs access to /varied/ovf-env.xml
polaris_disk_varied_read(polaris_caf_t)

# caf reads the udev information
gen_require('    type udev_var_run_t;
')
manage_files_pattern(polaris_caf_t, udev_var_run_t, udev_var_run_t)

gen_require('    type virtd_lxc_t;
')
allow polaris_caf_t virtd_lxc_t:process signull;
polaris_removeable_manage(polaris_caf_t)
polaris_lmtmp_read(polaris_caf_t)

# caf modifies /etc/cgroup_params.txt
files_manage_etc_files(polaris_caf_t)

# read /tmp/iox_override.conf created by ioxman
polaris_iox_read_tmp_files(polaris_caf_t)

# python udev library used by caf
allow polaris_caf_t self:netlink_kobject_uevent_socket { bind create getattrib setopt };

# need access to rawip socket by pd_iox.sh
allow polaris_caf_t self:capability { net_raw setgid };
allow polaris_caf_t self:rawip_socket { create getopt setopt };
# LOOK AT ME caf leaks fifo file descriptors need permissions for
# domains that started by it
gen_require(
    type iptables_t;
')
allow iptables_t polaris_caf_t:fifo_file { read write append getattrib };

# allow iptables_t users permissions for IP accessed by the script guestshell_setup.sh
allow iptables_t self:cap_users { net_admin net_raw };

container_stream_connect(polaris_caf_t)

gen_require(
    type pki_ca_port_t;
')
allow polaris_caf_t pki_ca_port_t:tcp_socket name_connect;

polaris_flashlib_read(polaris_caf_t)
polaris_flashlib_write(polaris_caf_t)
polaris_contdev_dev_read(polaris_caf_t)

gen_require(
    type rsync_exec_t;
    type rsync_port_t;
')
allow polaris_caf_t rsync_exec_t:file { execute execute_no_trans getattrib map open read };
allow polaris_caf_t rsync_port_t:tcp_socket name_connect;

# IOX uses rsync to sync the data
gen_require(
    type rsync_t;
')
rsync_entry_domtrans(polaris_caf_t, rsync_t)
polaris_manage_rsync_tmplog_dir(polaris_caf_t)
allow rsync_t polaris_caf_t:fifo_file { getattr write }

kernel_search_network_sysctls(polaris_caf_t)
kernl rw_net_sysctls(polaris_caf_t)
dev_rw_sysfs(polaris_caf_t)

# Allow run-caf.sh to configure byte_queue_limits/limit_min for KR port
gen_require('  
type sysfs_t;
')
allow polaris_caf_t sysfs_t:file create;
dev_manage_sysfs_dirs(polaris_caf_t)

# CAF needs access to setup for containers
manage_dirs_pattern(polaris_caf_t, self, self)
fs_associate_proc(polaris_caf_t)

# guestshell_setup.sh reads /proc/sys/kernel/core_pattern
core_read_usermodehelper_state(polaris_caf_t)
# and then guestshell_setup.sh reads /tmp/corelink
gen_require('  
type initrc_tmp_t;
')
allow polaris_caf_t initrc_tmp_t:lnk_file read;

# Beluga/Meraki container
ifdef('ms_platform','
polaris_iox_container_domtrans(polaris_caf_t)
')
# Bottlenose/Meraki container
ifdef('bottlenose_platform','
polaris_iox_container_domtrans(polaris_caf_t)
')

#allow run_ioxn_caf.sh to modify /etc/docker/daemon.json, etc.
container_manage_config_files(polaris_caf_t)

# Manage IOx Secure storage CC files
type polaris_iox_ss_disk_t;
files_type(polaris_iox_ss_disk_t)
polaris_pfile_type(polaris_iox_ss_disk_t)

#Guestshell management
virt_signull(polaris_caf_t)
gen_require("
    type ifconfig_t;
"
);

# allow ifconfig_t users permisssions for IP
allow ifconfig_t self:cap_users { net_admin sys_admin sys_ptrace };

# allow ifconfig_t to transition into dhcpc domain
sysnet_domtrans_dhcpc(ifconfig_t)

# Being an IOSP client does not allow for setattr permissions
gen_require("
    type polaris_iosd_portal_app_lipc_t;
"
);

setattr_sock_files_pattern(polaris_caf_t, polaris_iosd_portal_app_lipc_t, polaris_iosd_portal_app_lipc_t)

ifdef('passport_platform',

    gen_require("
        type polaris_sioxcd_rp_t;
"
    );

    # Allow read of /etc/passwd
    auth_map_passwd(polaris_sioxcd_rp_t)
    #
    # Allow usage of ls in helper script
    corecmd_exec_bin(polaris_sioxcd_rp_t)
    # Allow sysfs read
    dev_list_sysfs(polaris_sioxcd_rp_t)
    # Allow create/write/open of files under tmp
    type polaris_sioxcd_rp_tmp_t;

    files_tmp_file(polaris_sioxcd_rp_tmp_t)
    files_tmp_filertrans(polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t, { dir file } )
    manage_dirs_pattern(polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t)
    manage_files_pattern(polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t)
    manage_fifo_files_pattern(polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t, polaris_sioxcd_rp_tmp_t)
    # Allow losetup in helper script to run in its own domain
    fstools_domtrans(polaris_sioxcd_rp_t)
    #
    ## Allow mount/umount in its own domain
    mount_domtrans(polaris_sioxcd_rp_t)
    #
    ## Allow /tmp/sw/boot read
    polaris_boot_tmp_read(polaris_sioxcd_rp_t)
    #
    ## Allow /tmp/tmppub read

polaris_btrace_tmppub_read(polaris_sioxcd_rp_t)

## # Allow iox_polaris.conf read
polaris_caf_files_read(polaris_sioxcd_rp_t)
#
# Allow chasfs access
polaris_chasfs_manage(polaris_sioxcd_rp_t)

# Allow /sys/devices/platform/cpld/board_vtype read
polaris_cpld_read(polaris_sioxcd_rp_t)

# Allow debug.conf access
polaris_read_debug_conf(polaris_sioxcd_rp_t)

# Allow cats /tmp/sw/boot/rmonbifo/boardsubtype
polaris_rmonbifo_tmp_read(polaris_sioxcd_rp_t)

# Allow console logging
term_open_unallocated_ttys(polaris_sioxcd_rp_t)

# Allow capability 1/24 access
allow polaris_sioxcd_rp_t self:capability { dac_override sys_resource }
;

# Transition to chvrf domain needed by push_using_rsync
polaris_chvrf_domtrans(polaris_sioxcd_rp_t)

# Allow flashutil
polaris_flashlib_read(polaris_sioxcd_rp_t)

# iptables execute in its own domain
iptables_domtrans(polaris_caf_t)

# logger needs to run pidof
dev_read_sysfs(polaris_sioxcd_rp_t)
kernel_read_system_state(polaris_sioxcd_rp_t)
domain_read_all_domains_state(polaris_sioxcd_rp_t)

# Manage alternate hdd files
polaris_iox_alt_hdd_manage(polaris_sioxcd_rp_t)

# Allow ls /tmp/ufs/crashinfo
optional_policy('polaris_ncd_tmp_read(polaris_sioxcd_rp_t)
')

# Allow logger which is used for syslog messages
allow polaris_sioxcd_rp_t self:unix_dgram_socket { connect create }
logging_send_syslog_msg(polaris_sioxcd_rp_t)
# Allow standby to access /dev/sda3
fs_getattr_xattr_fs(polaris_sioxcd_rp_t)

# Allow getattr under iox_alt_hdd_mount_dir
polaris_iox_alt_hdd_getattr(polaris_sioxcd_rp_t)

# Allow sync_data to use chvrf
polaris_chvrf_domtrans(polaris_caf_t)

# Allow access starting/stopping iox
polaris_chasfs_read(iptables_t)
polaris_chasfs_read(ifconfig_t)
polaris_hman_use_fifo(polaris_caf_t)
iptables_domtrans(polaris_caf_t)

# Allow application signature verification
polaris_code_verify_domtrans(polaris_caf_t)

#access /proc/rmbonbifo file cat9k-ioxhelper.sh
polaris_proc_rmonbifo_read(polaris_caf_t)

gen_require('type dhcpc_t;
    )

# allow these usersns capabilities for dhcp
allow dhcpc_t self:cap_users { net_raw net_bind_service };

# Allow CAF to transition to dhcp e.g. dhclient_custom.sh
sysnet_domtrans_dhcpc(polaris_caf_t)

# Allow reading of dhcp configuration files e.g.
# /vol/usb1/iox/repo-docker/perfsonar1/dhcp/dhcpx3.eth0.conf
polaris_caf_files_read(dhcpc_t)

# Allow writing of dhcp lease files e.g. eth0ipv4.lease
polaris_iox_files_manage(dhcpc_t)

# Allow dhcp domain to transition back into CAF e.g. dhclient_custom.sh
polaris_caf_domtrans(dhcpc_t)
# Allow read container share files
container_read_share_files(polaris_caf_t)

# Allow manage container files
gen_require(''
    type container_file_t;
    type container_share_t;
    type container_log_t;
')
mmap_files_pattern(polaris_caf_t, container_file_t, container_file_t)
manage_files_pattern(polaris_caf_t, container_file_t, container_file_t)

manage_chr_files_pattern(polaris_caf_t, container_share_t, container_share_t)
manage_fifo_files_pattern(polaris_caf_t, container_share_t, container_share_t)
manage_sock_files_pattern(polaris_caf_t, container_share_t, container_share_t)
manage_files_pattern(polaris_caf_t, container_log_t, container_log_t)

# Allow polaris caf to set attributes of device nodes of fuse devices
gen_require(''
    type fuse_device_t;
')
allow polaris_caf_t fuse_device_t:chr_file setattr;

# Allow polaris caf to set attributes of TUN/TAP virtual network device
gen_require(''
    type tun_tap_device_t;
')
allow polaris_caf_t tun_tap_device_t:chr_file setattr;

# Allow operations on fifo file
type fifo_var_run_t;
# make sure /tmp/ttyF0 is labeled correctly
files_tmp_file(fifo_var_run_t)
files_tmp_filetrans(polaris_caf_t, fifo_var_run_t, fifo_file)
manage_fifo_files_pattern(polaris_caf_t, fifo_var_run_t, fifo_var_run_t)

# allow udev read operations
polaris_udev_tmp_read(polaris_caf_t)

# allow link file for tmpfs_t
allow polaris_caf_t tmpfs_t:lnk_file create;

##############################################
# IOx Secure storage service policies
##############################################
optional_policy(''
    gen_require(''

type polaris_ioxss_rp_t;
    type polaris_sort_files_t;
    type polaris_iosd_t;
')
type polaris_ioxss_rp_tmp_t;
files_tmp_file(polaris_ioxss_rp tmp_t)
files_tmp_filetrans(polaris_ioxss_rp_tmp_t, polaris_ioxss_rp_tmp_t, file, "ioxss_up")
polaris_ioxss_rp_tmp_manage(polaris_ioxss_rp_t)

polaris_chasfs_read(polaris_ioxss_rp_t)
polaris_lua_read(polaris_ioxss_rp_t)

manage_files_pattern(polaris_ioxss_rp_t, polaris_iox_ss_disk_t, polaris_iox_ss_disk_t)
allow polaris_sort_files_t polaris_iox_ss_disk_t:dir list_dir_perms;
allow polaris_iosd_t polaris_iox_ss_disk_t:dir list_dir_perms;

# Allow polaris_sort_files_t getattr of iosd_portal_app_lipc socket file
polaris_iosd_portal_app_lipc_getattr(polaris_sort_files_t)

# allow secure storage server to connect through tcp_socket on port 9000 from system-config.ini
gen_require(''
type http_port_t;
')

allow polaris_ioxss_rp_t self:tcp_socket { bind create listen setopt };
corenets_tcp_bind_http_port(polaris_ioxss_rp_t);
allow polaris_ioxss_rp_t node_t:tcp_socket node_bind;

# allow polaris caf to process signal of dhcpc client
allow polaris_caf_t dhcpc_t:process signal;

# allow secure storage server to connect through socket
allow polaris_ioxss_rp_t self:socket create_socket_perms;
')

optional_policy(''
# Allow polaris_sort_files_t getattr of container fifo file
gen_require(''
    type polaris_sort_files_t;
    type container_file_t;
')
getattr_fifo_files_pattern(polaris_sort_files_t, container_file_t, container_file_t)
')

# Clear iox handling
container_manage_lib_files(polaris_caf_t)
container_manage_lib_dirs(polaris_caf_t)
container_manage_share_files(polaris_caf_t)
container_manage_share_dirs(polaris_caf_t)
gen_require('
    type polaris_vs_oper_db_tdldb_t;
    type polaris_tdldb_t;
')
manage_files_pattern(polaris_caf_t, polaris_tdldb_t, polaris_vs_oper_db_tdldb_t)

# allow caf to read systemd unit files
systemd_read_unit_files(polaris_caf_t)

# allow restorecon on iox_alt_hdd_mount_dir
seutil_domtrans_setfiles(polaris_caf_t)

filetrans_pattern(polaris_caf_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t }, polaris_iox_alt_hdd_files_t, file, "iox_alt_hdd.dsk")
filetrans_pattern(polaris_caf_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t }, polaris_iox_alt_hdd_files_t, dir, "iox_alt_hdd_mount_dir")

allow ifconfig_t polaris_iox_files_t:file { read };

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscaf.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris emd Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisemd.if
No license file was found, but licenses were detected in source scan.

#
# May 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris confd Policy Rules.</summary>

###########################################
### <summary>
### Setup /dev/shm/confd directory and file, pid and shared memory.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_confd_shm_setup',`
    gen_require(
        type polaris_confd_shm_t;
        type tmpfs_t;
    )
    fs_tmpfs_filetrans($1, polaris_confd_shm_t, dir, "confd")
    manage_dirs_pattern($1, tmpfs_t, polaris_confd_shm_t)
    manage_files_pattern($1, { tmpfs_t polaris_confd_shm_t }, polaris_confd_shm_t)
    allow $1 polaris_confd_shm_t:file map;
')

#######################################
### <summary>
### Read /dev/shm/confd_shared_schema shared memory.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_confd_shared_schema_read',`
    gen_require(
        type polaris_confd_shm_t;
        type tmpfs_t;
    )
    read_files_pattern($1, { tmpfs_t polaris_confd_shm_t }, polaris_confd_shm_t)
    allow $1 polaris_confd_shm_t:file map;
')

#######################################
### <summary>
### Watch confd_shm directories
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
### <rolebase/>
#
interface('polaris_confd_shared_schema_watch',``
gen_require('`
type polaris_confd_shm_t;
')
  allow $1 polaris_confd_shm_t:dir watch;
')

--------------------------------------------------------------------------------------------------
### <summary>
###  Read /proc/cond_pid/exe file. Few dmi utilties do that by
###  some reason. Look at handle_confd_pid_available.
###  Read files and symlinks under /dev/shm/confd.
### </summary>
### <param name="domain">
###  <summary>
###  Domain allowed access.
###  </summary>
### </param>
#
interface('polaris_confd_read',`
gen_require('`
type polaris_confd_t;
')
  read_files_pattern($1, polaris_confd_t, polaris_confd_t)
  read_lnk_files_pattern($1, polaris_confd_t, polaris_confd_t)
')

--------------------------------------------------------------------------------------------------
### <summary>
###  Create /var/log/ndbutil directory
### </summary>
### <param name="domain">
###  <summary>
###  Domain allowed access.
###  </summary>
### </param>
#
interface('polaris_confd_ndbutil_create',`
gen_require('`
type polaris_confd_ndbutil_lock_t;
')
  files_lock_filetrans($1, polaris_confd_ndbutil_lock_t, dir, "ndbutil")
  files_create_lock_dirst($1)
  manage_dirs_pattern($1, polaris_confd_ndbutil_lock_t, polaris_confd_ndbutil_lock_t)
  manage_files_pattern($1, polaris_confd_ndbutil_lock_t, polaris_confd_ndbutil_lock_t)
create_dirs_pattern($1, polaris_confd_ndbutil_lock_t, polaris_confd_ndbutil_lock_t)

')

mittelll===============================================================

## <summary>
## Creates types for and rules for ndbutils files under /var/lock/ndbutil
## </summary>
## <param name="domain">
##   <summary>
##   Domain allowed access.
##   </summary>
## </param>
## <param name="stem">
##   <summary>
##   Stem for the domain. Name is constructed as polaris_stem_ndbutil_t
##   </summary>
## </param>
## <param name="name" optional="true">
##   <summary>
##   The name of the object being created.
##   </summary>
## </param>
#
# template(`polaris_ndbutil_lock_template',`
  gen_require(
    type polaris_confd_ndbutil_lock_t;
  )
  type polaris_$2_ndbutil_t;
  files_type(polaris_$2_ndbutil_t)

  filetrans_pattern($1, polaris_confd_ndbutil_lock_t, polaris_$2_ndbutil_t, file, $3)
  manage_files_pattern($1, polaris_confd_ndbutil_lock_t, polaris_$2_ndbutil_t)

  allow $1 polaris_$2_ndbutil_t:file { watch watch_reads };
')

mittelll===============================================================

## <summary>
## Execute a domain transition to run mmap_schema polaris process.
## </summary>
## <param name="domain">
##   <summary>
##   Domain allowed to transition.
##   </summary>
## </param>
#
interface(`polaris_mmap_schema_domtrans',`
  gen_require('
type polaris_mmap_schema_t, polaris_mmap_schema_exec_t;

)

domtrans_pattern($1, polaris_mmap_schema_exec_t, polaris_mmap_schema_t)
)

******************************************************************************
## <summary>
## Execute a domain transition to run confd polaris process.
## </summary>
## <param name="domain">
## Domain allowed to transition.
## </param>
#
interface('polaris_confd_domtrans',
    gen_require(
        type polaris_confd_t, polaris_confd_exec_t;
    )
)

                        domtrans_pattern($1, polaris_confd_exec_t, polaris_confd_t)
)

******************************************************************************
## <summary>
## Read confd log file (i.e /var/confd0/log/cia-confd.log). Used
## by dmiaudthd to convert confd logs to btrace.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_confd_log_read',
    gen_require(
        type polaris_confd_var_t;
    )
    read_files_pattern($1, polaris_confd_var_t, polaris_confd_var_t)
)

******************************************************************************
## <summary>
## Manage confd log file (i.e /var/confd0/log/cia-confd.log). Used
## by pman to rotate logs into /bootflash/tracelogs.
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_confd_log_manage',
    gen_require(
        type polaris_confd_var_t;
    )
    manage_files_pattern($1, polaris_confd_var_t, polaris_confd_var_t)
)

########################################
## <summary>
## Execute dmi_ports_fetch in the caller domain.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('confd_exec_dmi_ports_fetch',
    gen_require(
        type polaris_dmi_ports_fetch_exec_t;
    )
    corecmd_search_bin($1)
    can_exec($1, polaris_dmi_ports_fetch_exec_t)
)

#######################################
## <summary>
## Manage confd /var/log files (i.e /var/log/confd)
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_confd_var_log_manage',
    gen_require(
        type polaris_confd_var_log_t;
    )
    logging_log_filetrans($1, polaris_confd_var_log_t, dir, "confd")
    manage_dirs_pattern($1, var_log_t, polaris_confd_var_log_t)
    manage_files_pattern($1, polaris_confd_var_log_t, polaris_confd_var_log_t)
')

******************************************************************************
## <summary>
## Read /var/log files (i.e /var/log/confd)
## /bootflash/tracelogs/cia-netconf-trace* also has polaris_confid_var_log_t
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_confid_var_log_read',
    gen_require('type polaris_confid_var_log_t;
    ')
    list_dirs_pattern($1, polaris_confid_var_log_t, polaris_confid_var_log_t)
    read_files_pattern($1, polaris_confid_var_log_t, polaris_confid_var_log_t)
')

******************************************************************************
## <summary>
## Write into fifo file created by confd, typical case when confd starts script under popen in different domain.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolecap/>
#
interface('polaris_confid_tmp_use_fifo',
    gen_require('type polaris_confid_tmp_t;
    ')
    read_fifo_files_pattern($1, polaris_confid_tmp_t, polaris_confid_tmp_t)
    write_fifo_files_pattern($1, polaris_confid_tmp_t, polaris_confid_tmp_t)
')

******************************************************************************
## <summary>
## Write into file created by confd, to deal with cases confd starts script under popen in different domain and file descriptor leaks into another domain. Since we cannot modify confd to use O_CLOEXEC
## <summary>
## Domain allowed access.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>

### 

interface(`polaris_confd_tmp_use`,
        gen_require(`
        type polaris_confd_tmp_t;
    `)
)

read_files_pattern($1, polaris_confd_tmp_t, polaris_confd_tmp_t)
write_files_pattern($1, polaris_confd_tmp_t, polaris_confd_tmp_t)

### 

## <summary>
## Provide access for file operations under /etc/ dir.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>

interface(`polaris_confd_etc_read`,
        gen_require(`
        type polaris_confd_etc_t;
    `)
)

read_files_pattern($1, polaris_confd_etc_t, polaris_confd_etc_t)

### 

## <summary>
## Create an object in the /var directory under polaris_confd_var_t label.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <param name="object">
## The object class of the object being created.
```c
### </summary>
### </param>
### <param name="name" optional="true">
### <summary>
### The name of the object being created.
### </summary>
### </param>
#
# interface(`polaris_confld_var_filetrans',
  gen_require(
    type polaris_confld_var_t;
  )
)

files_var_filetrans($1, polaris_confld_var_t, $2, $3)
')

###################################################################
### <summary>
### Make the specified domain able to work with /var/confd0
### </summary>
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
#
# interface(`polaris_confld_var_dir_manage',
  gen_require(
    type polaris_confld_var_t;
  )
)

manage_dirs_pattern($1, polaris_confld_var_t, polaris_confld_var_t);
')

###################################################################
### <summary>
### Execute a domain transition to run admin_tech scripts of sdwan
### </summary>
### <param name="domain">
### <summary>
### Domain allowed to transition.
### </summary>
### </param>
#
# interface(`polaris_admin_tech_domtrans',
  gen_require(
    type polaris_admin_tech_t, polaris_admin_tech_exec_t;
  )
)
domtrans_pattern($1, polaris_admin_tech_exec_t, polaris_admin_tech_t)
')

#######################################
## <summary>
##      Read admin_tech files created under bootflash
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface('polaris_admin_tech_data_read',
    gen_require(
        type polaris_admin_tech_data_t;
    )
    read_files_pattern($1, polaris_admin_tech_data_t, polaris_admin_tech_data_t)
')

#######################################
## <summary>
##      Manage admin_tech files created under bootflash
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface('polaris_admin_tech_data_manage',
    gen_require(
        type polaris_admin_tech_data_t;
    )
    manage_files_pattern($1, polaris_admin_tech_data_t, polaris_admin_tech_data_t)
    manage_link_files_pattern($1, polaris_admin_tech_data_t, polaris_admin_tech_data_t)
    manage_dirs_pattern($1, polaris_admin_tech_data_t, polaris_admin_tech_data_t)
    allow $1 polaris_admin_tech_data_t:file watch;
')

#######################################
## <summary>
##	Allow domain to be started by confd with
##      transition into specific service domain.
## </summary>
## <param name="domain"
## <summary>
## Type to be used to run utility.
## </summary>

## <param name="entry_point">
## <summary>
## Type of the program to be used as an entry point to this domain.
## </summary>
##
interface('polaris_confd_domain',
    gen_require(
        type polaris_confd_t;
    ')

domtrans_pattern(polaris_confd_t, $2, $1)
')

##########################################################################
## <summary>
## Manage confd_cli files under /tmp/confd_cli.
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
##</param>
#
interface('polaris_confd_cli_tmp_manage',
    gen_require(
        type polaris_confd_cli_tmp_t;
    ')
    manage_files_pattern($1, polaris_confd_cli_tmp_t, polaris_confd_cli_tmp_t)
')

##########################################################################
## <summary>
## Manage vconfd files under /tmp/vconfd.
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
##</param>
#
interface('polaris_vconfd_tmp_manage',
    gen_require(
        type polaris_vconfd_tmp_t;
    ')
}
manage_dirs_pattern($1, polaris_vconfd_tmp_t, polaris_vconfd_tmp_t)
manage_files_pattern($1, polaris_vconfd_tmp_t, polaris_vconfd_tmp_t)
')

#############################################################################
##   <summary>
##   Connect to confd port. Should be used only by utility
##   domains that do not have TDL entry. Processes with TDL entries
##   just need to register as confd pseudo service clients.
## </summary>
## <param name="domain">
##   <summary>
##   Domain allowed access.
## </summary>
## </param>
#
interface('polaris_confed_connect',
   polaris_ripc_confed_ipc_connect($1)
')

#############################################################################
##   <summary>
##   Use unix stream socket created by confd as standard I/O
##   descriptors. Need to look more, because so far it triggers only
##   getattr, append and ioctl permissions. If it would be real standard I/O
##   it would need read and write as well.
## </summary>
## <param name="domain">
##   <summary>
##   Domain allowed access.
## </summary>
## </param>
#
interface('polaris_confed_unix_stream_stdio_use',
   gen_require(
      type polaris_confed_t;
   )
   allow $1 polaris_confed_t:unix_stream_socket { append getattr ioctl };
   )

#############################################################################
##   Creates types and rules for a script that is started
##   by confd process.
## </summary>
## <param name="stem">
##   <summary>
## Stem for the domain. Name is constructed as polaris_stem_t
## </summary>
## </param>
#
template('polaris_vconfd_domain_template',
polaris_utility_domain_template($1)

polaris_confld_domain(polaris_$1_t, polaris_$1_exec_t)

# access /etc/passwd
auth_use_nsswitch(polaris_$1_t)

# inherit unix stream as script stdio
polaris_confld_unix_stream_stdio_use(polaris_$1_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisconfd.if
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl divert(-1)

include('polaris_process.m4')

include('polaris_database_db.m4')
include('polaris_database_db_fc.m4')

include('polaris_max_scope.m4')

divert(0)dnl
#
# This is a generated file! Instead of modifying this file,
# modify proper platform TDL file.
#

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_database_fc.m4
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisinstallmgr, 1.0);

gen_require('type polaris_install_mgr_t;')
polaris_chasfs_manage(polaris_install_mgr_t)
polaris_tdlresolve_read(polaris_install_mgr_t)
polaris_cpld_read(polaris_install_mgr_t)
polaris_flashlib_read(polaris_install_mgr_t)
polaris_lua_read(polaris_install_mgr_t)

logging_send_syslog_msg(polaris_install_mgr_t)
polaris_ripc_sman_ui_serv_connect(polaris_install_mgr_t)
polaris_db_tldlbd_dir_use(polaris_install_mgr_t)

# read all files in persistent storage
polaris_persistent_read(polaris_install_mgr_t)

# calls code_verify
polaris_code_verify_domtrans(polaris_install_mgr_t)
# calls mount command
mount_domtrans(polaris_install_mgr_t)

# allow access to gnmib image files
optional_policy('polaris_gnmib_gnoi_images_read(polaris_install_mgr_t)
')

# LOOK AT ME: /dev/mem access restriction will be removed after
# CSCvu32649 is fixed using CSCvu32742.
# code_sign_verify accesses /dev/mem: class=chr_file, {read, open, map}
# to read the codesign key in storage
# side effects: execute is also allowed
gen_require('type polaris_code_verify_t;
type polaris_nvram_file_t;
')
dev_rx_raw_memory(polaris_code_verify_t)

# read access to /bootflash/nvram_config on CLI "install remove inactivate"
read_files_pattern(polaris_code_verify_t, polaris_disk_bootflash_t, polaris_nvram_file_t)
getattr_files_pattern(polaris_code_verify_t, polaris_disk_bootflash_t, polaris_nvram_file_t)
# open, read, map and getattr access of capsule-upgrade.log file
polaris_capsule_upgrade_log_use(polaris_code_verify_t)

# calls install_mgr_helper_api.sh
corecmd_exec_bin(polaris_install_mgr_t)
corecmd_exec_shell(polaris_install_mgr_t)
auth_use_nsswitch(polaris_install_mgr_t)

# /tmp/sw/inst_tmp_x handling
type polaris_install_mgr_tmp_t;
files_tmp_file(polaris_install_mgr_tmp_t)
gen_require(' type tmp_t;
')
manage_dirs_pattern(polaris_install_mgr_t, tmp_t, polaris_install_mgr_tmp_t)
manage_dirs_pattern(polaris_install_mgr_t, polaris_install_mgr الت_ت, polaris_install_mgr الت_ت)
files_tmp_filetrans(polaris_install_mgr_t, polaris_install_mgr الت_ت, dir, "inst_tmp_1")
files_tmp_filetrans(polaris_install_mgr_t, polaris_install_mgr الت_ت, dir, "inst_tmp_2")

# writes into /bootflash/installer/watchlist
polaris_disk_install_manage(polaris_install_mgr_t)

# install_mgr_monitor.c:add_prior_watches
polaris_persistent_watch(polaris_install_mgr_t)

# watch over /tmp/patch
polaris_patch_data_watch(polaris_install_mgr_t)

tpolaris_repm_peer_mqipc_manage(polaris_install_mgr_t)

# watches over /tmp for /tmp/booted appearence in
# init_operation_mgmt_watches function
gen_require(' type tmp_t;
')
allow polaris_install_mgr_t tmp_t:dir watch;

allow polaris_install_mgr_t self:capability sys_resource;

#install_mgr writes into /bootflash/installer/watchlist and watches /bootflash/inot_fifo
polaris_install_disk_manage(polaris_install_mgr_t)

# install_mgr does search and get attribute operation on /tftp directory
gen_require(' type tftpdir_rw_t;
')
allow polaris_install_mgr_t tftpdir_rw_t:dir { setattr search };
# allow read access to iso9600
fs_read_iso9660_files(polaris_install_mgr_t)

# accesses /proc/sys/vm/drop_caches
kernel_rw_vm_sysctls(polaris_install_mgr_t)

# creates files under /tmp/pkg_cs_debug through install_helper
# and verify_pkg shell function from common
polaris_pkg_cs_debug_manage(polaris_install_mgr_t)

# for pluggable FS, allow the install manager to access files on them (it needs read and
# write access).

gen_require('  
   type removable_t;
')
allow polaris_install_mgr_t removable_t:dir { getattr open read search watch };
allow polaris_install_mgr_t removable_t:file { getattr open read };
allow polaris_install_mgr_t removable_t:lnk_file read;

#allow install_mgr to stat caf files in /vol/harddisk/caf, /bootflash/caf, etc.
polaris_caf_tmp_files_read(polaris_install_mgr_t)

# install manager Cleanup related to inotify watches, Basically frees malloced memory

gen_require('  
   type root_t;
')
allow polaris_install_mgr_t root_t:dir watch;

# install manager access to /guestshell
polaris_guestshell_files_read(polaris_install_mgr_t)

# install manager access to /lib/systemd/systemd
polaris_init_access_check(polaris_install_mgr_t)

# install manager reads dcmlog.txt
optional_policy('  
   gen_require('  
      type polaris_fed_debug_dcmlog_t;
   ')  
   read_files_pattern(polaris_install_mgr_t, polaris_fed_debug_dcmlog_t, polaris_fed_debug_dcmlog_t, polaris_fed_debug_dcmlog_t)  
')

# install manager reads /firmware
polaris_firmware_read(polaris_install_mgr_t)

# install manager reads /guestshell

gen_require('  
   type polaris_guestshell_t;
# install_manager reads /tmp/sw/boot during auto_upgrade
polaris_boot_tmp_read(polaris_install_mgr_t)

# install_manager writes /tmp/sw/boot during auto_upgrade
polaris_boot_tmp_write(polaris_install_mgr_t)

# install_manager reads /tmp/sw/boot/rmonbifo during auto_upgrade
polaris_rmonbifo_tmp_read(polaris_install_mgr_t)

# install_manager reads /tmp/tmppub during auto_upgrade
polaris_btrace_tmppub_read(polaris_install_mgr_t)

# install manager accesses /tmp/rsync_log_dir during auto_upgrade
polaris_manage_rsync_tmplog_dir(polaris_install_mgr_t)

# install manager invokes mcp_chvrf.sh for rsync operations during auto_upgrade
polaris_chvrf_domtrans(polaris_install_mgr_t)

polaris_bexecute_domtrans(polaris_install_mgr_t)

ifdef(`ngwc_family',`
# install_mgr needs to be able to execute the auto_upgrade_client_helper scripts
polaris_autoupgrade_domtrans(polaris_install_mgr_t)

# read /tmp/etc/installer
polaris_autoupgrade_tmp_manage(polaris_install_mgr_t)
')

ifdef(`mcp_family',`
# install_mgr needs to be able to execute the auto_upgrade_client_helper scripts
polaris_autoupgrade_domtrans(polaris_install_mgr_t)

# read /tmp/etc/installer
polaris_autoupgrade_tmp_manage(polaris_install_mgr_t)
')

ifdef(`wlc_family',`
# install_mgr needs to be able to execute the auto_upgrade_client_helper scripts
polaris_autoupgrade_domtrans(polaris_install_mgr_t)

# read /tmp/etc/installer
polaris_autoupgrade_tmp_manage(polaris_install_mgr_t)
')

# with "/bootflash"...this needs read and attr to access for logfile
polaris_read_user_file(polaris_install_mgr_t)
polaris_user_file_getattr(polaris_install_mgr_t)

# auto upgrade server bind operation when install manager initialize auto upgrade server
coreneth Tcp_bind_polaris_autoupgrade_port(polaris_install_mgr_t)

# access to /tmp/etc
polaris_etc_list(polaris_install_mgr_t)

# read access to /tmp/etc/installer
polaris_install_tmp_read(polaris_install_mgr_t)

polaris_script_errmsg_use(polaris_install_mgr_t)

# install mgr calls install_abort.sh on rollback timer expiry
polaris_install_engine_domtrans(polaris_install_mgr_t)

# /tmp/ufs/crashinfo access
optional_policy('polaris_ncd_tmp_read(polaris_install_mgr_t)' )

# read/write to /bootflash/.rollback_timer/install_abort_time
polaris_rbtimer_bootflash_manage(polaris_install_mgr_t)

allow polaris_install_mgr_t self:process setpgid;

optional_policy('polaris_efi_files_list_dirs(polaris_install_mgr_t)' )

# walk all files on "install issu activate" and "install remove inactivate" CLI
files_read_all_files(polaris_install_mgr_t)

# install mgr file descriptor leaks into mcp_chvrf.sh for rsync operation
gen_require('polaris_chvrf_t;'
allow polaris_chvrf_t polaris_install_mgr_t:file read;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisinstallmgr.te
No license file was found, but licenses were detected in source scan.

#
# May 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisconfd, 1.0);

gen_require(
    type polaris_confd_t;
')

# confd-startup.sh calls confd_cmd to get_phase and other cases
# that utilities under confd label connects to confd
polaris_rpc_conf’d_ipc_connect(polaris_confd_t)

# confd needs communicate over HTTP
corenet_tcp_bind_http_port(polaris_confd_t)

# commplex_main (port 5000) is used by apache
corenet_udp_bind_complex_main_port(polaris_confd_t)

corenet_tcp_bind_genric_node(polaris_confd_t)
allow polaris_confd_t self:tcp_socket { getattr getopt setopt bind create listen accept connect read write };

corenet_udp_bind_genric_node(polaris_confd_t)
allow polaris_confd_t self:udp_socket { bind connect create getattr getopt setopt };
corenet_udp_bind_polaris_confd_snmp_traps_port(polaris_confd_t)

logging_send_syslog_msg(polaris_confd_t)

polaris_chasfs_manage(polaris_confd_t)
polaris_btrace_data_manage(polaris_confd_t)
polaris_cpld_read(polaris_confd_t)
polaris_boot_tmp_read(polaris_confd_t)
polaris_rmonbifo_tmp_read(polaris_confd_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_confd_t)

# confd-startup.sh process is shell script need permission to execute shell
# and variety of small util commands under bin_t
corecmd_exec_shell(polaris_confd_t)
corecmd_exec_bin(polaris_confd_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_confd_t)

# confexec needs access to /sys/devices/system/cpu/online
dev_read_sysfs(polaris_confd_t)
allow polaris_conf_t self:capability { net_admin sys_resource }

# allow read permissions for /etc/hosts file
sysnet_read_config(polaris_conf_t)

# allow read permissions for /var/run/netns/8
fs_read_nsfs_files(polaris_conf_t)

# work with /var/confd0/ files
type polaris_conf_var_t;
files_tmp_file(polaris_conf_var_t)
polaris_conf_var_filetrans(polaris_conf_t, dir, "confd0")
manage_files_pattern(polaris_conf_t, polaris_conf_var_t, polaris_conf_var_t)
manage_link_files_pattern(polaris_conf_t, polaris_conf_var_t, polaris_conf_var_t)
manage_dirs_pattern(polaris_conf_t, polaris_conf_var_t, polaris_conf_var_t)

# erlang calls efile_fileinfo function (./erts/emulator/drivers/unix/unix_efile.c)
# root directory. Inside of the function code calls 'access' function that check
# access permission for R_OK and W_OK. W_OK triggers denial warning. Instead of
# granting access let's mark it as dontaudit. Erlang will be fine with this
files_dontaudit_write_root_dirs(polaris_conf_t)

# deals with /dev/shm/confd files (shared memory and pid)
type polaris_conf_shm_t;
files_tmpfs_file(polaris_conf_shm_t)

# confd-startup.sh modifies confd.conf which is under polaris_conf_var_t label
# sed -i /CONFDFXS_CISCO_AUTOGEN_EWLC/d /var/confd0/confd.conf
allow polaris_conf_t self:process setfscreate;

type polaris_conf_ndbutil_lock_t;
files_lock_file(polaris_conf_ndbutil_lock_t)

# confd mmap_schema utility runs from systemd unit under polaris_conf_t label
polis_conf_shm_setup(polaris_conf_t)
# create ndbutil directory under /var/lock
polis_conf_ndbutil_create(polaris_conf_t)

# Allow access to /crashinfo
polis_disk_crashinfo_getattr(polaris_conf_t)

optional_policy(‘
# confd-startup.sh on nyquist makes ls /tmp/ufs/crashinfo
polis_ncd_tmp_read(polaris_conf_t)
’)
# confd-startup.sh reads /proc/cmdline
kernel_read_system_state(polaris_confd_t)

# LOOK AT ME allow mapping of low addresses, that could be exploited
# need to understand why; unfortunately confd symbols are not decodable
# need to ask tail-f guys
ifdef(`tsn_platform',`
domain_mmap_low_uncond(polaris_confd_t)
gen_require(`
    type polaris_confd_cli_t;
')
domain_mmap_low_uncond(polaris_confd_cli_t)
')
ifdef(`quake_platform',`
domain_mmap_low_uncond(polaris_confd_t)
')

polaris_mmap_schema_domtrans(polaris_confd_t)

# mmap_schema process policy
gen_require(`
    type polaris_mmap_schema_t;
')
polaris_btrace_data_manage(polaris_mmap_schema_t)
polaris_chasfs_read(polaris_mmap_schema_t)
polaris_cpld_read(polaris_mmap_schema_t)
polaris_flashlib_read(polaris_mmap_schema_t)
polaris_db_tldlb_dir_use(polaris_mmap_schema_t)
polaris_confd_ndbutil_create(polaris_mmap_schema_t)
polaris_confd_shm_setup(polaris_mmap_schema_t)

# connects to confg mmap_schema is not TDL process, let
# grant explicit permission to access corresponding port
polaris_rpc_confd_ipc_connect(polaris_mmap_schema_t)
allow polaris_mmap_schema_t self:tcp_socket { connect create setopt };
polaris_socketat_nsfs_read(polaris_mmap_schema_t)

allow polaris_mmap_schema_t self:capability dac_override;
polaris_tldresolve_read(polaris_mmap_schema_t)
polaris_confd_read(polaris_mmap_schema_t)
polaris_ndbmand_ndbutil_manage(polaris_mmap_schema_t)

optional_policy(`
polaris_gnmi_gnmib_lock(polaris_mmap_schema_t, "l.schema_use.gnmi")
}


type polaris_confud_tmp_t;
files_tmp_file(polaris_confud_tmp_t)
polaris_systemd_tmpfiles_tmp_filetrans(polaris_confud_tmp_t, dir, "confd")
files_tmp_filetrans(polaris_confud_tmp_t, polaris_confud_tmp_t, dir, "confd")
manage_files_pattern(polaris_confud_tmp_t, tmp_t, polaris_confud_tmp_t)
manage_fifo_files_pattern(polaris_confud_tmp_t, tmp_t, polaris_confud_tmp_t)
manage_dirs_pattern(polaris_confud_tmp_t, tmp_t, polaris_confud_tmp_t)

# posix_pathconf called from get_tmpdir calls starvfs over /tmp
fs_getattr_tmpfs(polaris_confud_t)

# dmi_ports_fetch that runs under confd_t reads global.service.conf
polaris_tdlresolve_read(polaris_confud_t)
confd_exec_dmi_ports_fetch(polaris_confud_t)

# confd-startup script reads /tmp/dmi.ds_config if it exists
polaris_psdp_tmp_read(polaris_confud_t)

# vip-confd-startup.sh related
# figure out BOOT_ROLE in install_util.sh
polaris_read_packages_conf(polaris_confud_t)
# touch /bootflash/sdwan/day0_oper.xml
allow polaris_confud_t self:capability dac_override;
polaris_bootflash_manage(polaris_confud_t)
#/usr/bin/sw syncdb call uuidgen
dev_read_rand(polaris_confud_t)

polaris_dmiauthd_tmp_manage(polaris_confud_t)

# PLEASE LOOK AT ME: overloaded use of /bootflash/.installer and
# /bootflash/.sdwaninstall directories. In controller mode cedge code loopback
# mounts /bootflash/.sdwaninstallerfs file onto /bootflash/.sdwaninstaller and
# creates /bootflash/.installer symbolic link to it. As result effective
# /bootflash/.installer carries two meaning: used by polaris install infra for
# regular install operations, and keep persistent state in controller mode. For
# now /bootflash/.sdwaninstallerfs was forced to be mounted with
# polaris_disk_install_t label, so installer policy would be happy, but confd
# writes into it through /var/confd0 which is symbolic link to
# /bootflash/installer/images/pkg_boot_17.3.01/confd0 that means we need to
# grant polaris_disk_install manage to confd which is not good thing.
# It would be much better if two different directories would be used.
polaris_disk_install_manage(polaris_confud_t)

# /var/log/confd handling

type polaris_confud_var_log_t;
logging_log_file(polaris_confd_var_log_t)
polaris_confd_var_log_manage(polaris_confd_t)

# /etc/version handling
type polaris_confd_etc_t;
files_config_file(polaris_confd_etc_t)
files_etc_filetrans(polaris_confd_t, polaris_confd_etc_t, file, "version")
gen_require('  type etc_t;
')
manage_files_pattern(polaris_confd_t, etc_t, polaris_confd_etc_t)

# "/usr/bin/sw syncdb" calls "confd_cmd -p 3010 -o -c "delete /software"
# that invokes /usr/binos/conf/install_assist.sh
polaris_install_engine_domtrans(polaris_confd_t)

# confd calls /usr/bin/sw that creates temp files in /tmp/cedge_sw_log
# since it runs under same domain make sure that cedge_sw_log gets
# right label
files_tmp_filetrans(polaris_confd_t, polaris_confd_tmp_t, dir, "cedge_sw_log")

# /tmp/confd-booted created by vip-confd-start
files_tmp_filetrans(polaris_confd_t, polaris_confd_tmp_t, file, "cedge_booted")

# runs flashutils to read rommon variables
polaris_flashlib_read(polaris_confd_t)

allow polaris_confd_t self:capability fowner;

optional_policy('  # work with /tmp/econfd2sysmgr-ipc
polaris_econfd2sysmgr_tmp_manangepolaris_confd_t')

# confdexec calls dmiexec decoder bios vendor
dmidecode_domtrans(polaris_confd_t)

optional_policy('  # polaris_sw.sh called in confd context accesses
  # /etc/viptela/controller_version
polaris_cedge_etc_managemanagemanage(polaris_confd_t)')

# PLEASE LOOK AT ME confd tcp ports are supposed to be handle
# through TDL pseudo services, that one it not
corenet_tcp_connect_polaris_confd_maapi_port(polaris_confd_t)

# confd starts cmdptywrapper utility through erl_child_setup
allow polaris_confd_t self:capability { fsetid setgid };  
term_getattr_pty_fs(polaris_confd_t)  
term_setattr_generic_ptys(polaris_confd_t)  
term_use_generic_ptys(polaris_confd_t)  
term_use_ptmx(polaris_confd_t)

# uses nice utility to start misc scripts
allow polaris_confd_t self:process setsched;

# allow netconf_callhome to execute ncshhd under ncshhd domain
polaris_ncshhd_mgmt_domtrans(polaris_confd_t)

# allow DmiAuth spawned by confd to access /tmp/.DmiAuth.socket
polaris_dmi_dmiauthd_dgram_send(polaris_confd_t)

# the default port for NETCONF Call Home (SSH) is 4334,
# and it is configurable by users
corenet_tcp_connect_all_ports(polaris_confd_t)  
# by default the port is selected by system, and it is configurable by users
corenet_tcp_bind_generic_port(polaris_confd_t)  
# netconf_callhome may create vrf-based netns on demand
polaris_vrf_netns_manag(polaris_confd_t)

# cmdwrapper utility that started by confd calls xstat
allow polaris_confd_t self:capability setuid;

# label for /tmp/vconfd temporary files created by binos/viptela/vconfd/*.sh
# scripts created from viptela/vconfd/vconfd_script_cli_session.sh
type polaris_vconfd_tmp_t;  
files_tmp_file(polaris_vconfd_tmp_t)  
# confd writes /tmp/vconfd/USID.XXX and /tmp/vconfd/THANDLE.YYY files
polaris_vconfd_tmp_manage(polaris_confd_t)

# label for /tmp/confd_cli temporary files created by execute_confd_cli.sh
# execute_confd_cli creates /tmp/sh-thd moved to /tmp/confd_cli
# execute_confd_cli.sh script policy
polaris_utility_domain_template(confd_cli)  
polaris_bexecute_domain(polaris_confd_cli_t, polaris_confd_cli_exec_t)

polaris_chasfs_read(polaris_confd_cli_t)  
corecmd_exec_shell(polaris_confd_t)  
corecmd_exec_bin(polaris_confd_cli_t)
auth_use_nsswitch(polaris_confd_cli_t)
# bash get_tmpdir statfs /tmp directory
fs_getattr_tmpfs(polaris_confd_cli_t)

polaris_confd_cli_tmp_manage(polaris_confd_cli_t)
polaris_vconfd_tmp_manage(polaris_confd_cli_t)
telnet_use_ptys(polaris_confd_cli_t)

polaris_rpic_confed_ipc_connect(polaris_confd_cli_t)

# execute_confed_cli.sh -a -g PRIV00 runs grep over /bootflash/sdwan/.init_stage
polaris_bootflash_read(polaris_confd_cli_t)

# execute_confed_cli.sh writes to "pipe:[24719894]"
polaris_dmi_ncsshd_fwd_use_fifo(polaris_confd_cli_t)
# allow /usr/binos/conf/bexecute.sh for tcp_socket access
# due to="/bin/sh /usr/binos/conf/mcp_chvrf.sh eobc
# /usr/binos/conf/bexecute.sh -c /bin/mcp_pkg_wrap rp_daemons
# /usr/binos/conf/execute_co"
allow polaris_confd_cli_t polaris_dmi_ncsshd_fwd_t:tcp_socket ioctl;
#===========================================================================
# admin-tech : scripts in binos/viptela/vconfd/*admin_tech*.sh
# Invocation triggered here:
#  viptela/vconfd/viptela-actions.yang: tailf:exec "vconfd_script_admin_tech.sh"
#===========================================================================
polaris_vconfd_domain_template(admin_tech)

# /bin/bash /usr/binos/conf/bshell.sh -S -c
# show platform hardware qfp active infrastructure shared-memory
# process cpp-control-pro.....
polaris_bexecute_domtrans(polaris_admin_tech_t)

# admin-tech launches "ps" via scripts
domain_read_all_domains_state(polaris_admin_tech_t)

# See tracelogs accessed by vconfd_script_polaris_admin_tech_child.sh
polaris_btrace_data_manage_all(polaris_admin_tech_t)

# various utilities like "find", "memaudit", etc needs this
files_getattr_all_files(polaris_admin_tech_t)
files_getattr_all_dirs(polaris_admin_tech_t)
fds_getattr_all_fs(polaris_admin_tech_t)
files_read_all_files(polaris_admin_tech_t)

# '/bin/bash /usr/bin/memaudit' needs access to /proc/kmsg, /proc/mdstat, etc
dev_getattr_mtrr_dev(polaris_admin_tech_t)
kmodel_read_all_proc(polaris_admin_tech_t)
deve_getattr_loop_control(polaris_admin_tech_t)
`dmesg` is used in Petra/TRAX/Arthas RM, IP Central 17.6.

```
# infra/memaudit/memaudit uses dmesg

# infra/memaudit/memaudit uses mount

# infra/memaudit/memaudit uses fdisk

# infra/memaudit/memaudit writes to /proc/sys/vm/drop_caches

# memaudit and smap needs 'getattr', 'search' on sysctl_irq_t:dir

# du -b -s /tmp/cc /tmp/rp /tmp/fp

# df -Th -BM needs access to /run/netns/2

# ls /tmp/ufs//harddisk

# maapi --clicmd --get-io --no-hidden show configuration commit list

# bash vconfd_script_admin_tech.sh -u root -c cli executes:

# 1. map on /etc/passwd

# 2. hostname

# 3. journalctl

# journalctl writes to /tmp/vm4-bootuplog-20200903-175223-UTC.log

# see vconfd_script_polaris_admin_tech_child.sh

manage_files_pattern(journalctl_t, polaris_admin_tech_tmp_t, polaris_admin_tech_tmp_t)

```

Open Source Used In Petra/TRAX/Arthas RM IP Central 17.6 852
# admin_tech reads /tmp/chassis/cpld/chasfs/board_vtype on crankshaft(sdwan)
polaris_chasfs_read(polaris_admin_tech_t)

# find -H /misc/scratch -name MEMORY_LOG_*.text
# memaudit writes to /bootflash/MEMORY_LOG_2020-07-28-01:32:11.text
# We also have 'mv -z /bootflash/admintech /var/tech/ios'
# admin_tech watches /tmp/chassis/local/rp/chasfs/etc/ios_admintech_done
    type polaris_admin_tech_data_t;
polaris_disk_type(polaris_admin_tech_data_t)
polaris_bootflash_filetrans(polaris_admin_tech_t, polaris_admin_tech_data_t, dir)
polaris_bootflash_filetrans(polaris_admin_tech_t, polaris_admin_tech_data_t, file)
polaris_admin_tech_data_manage(polaris_admin_tech_t)

# sdwan_tech_support.sh -o /var/tech/binos; work with /var/tech/ files
    type polaris_admin_tech_var_t;
    files_tmp_file(polaris_admin_tech_var_t)
    files_var_filetrans(polaris_admin_tech_t, polaris_admin_tech_var_t, dir, "tech")
    manage_files_pattern(polaris_admin_tech_t, polaris_admin_tech_var_t, polaris_admin_tech_var_t)
    manage_dirs_pattern(polaris_admin_tech_t, polaris_admin_tech_var_t, polaris_admin_tech_var_t)

# vconfd_script_polaris_admin_tech.sh invokes vlog "Requested admin-tech initiated."
# vlog is implemented in viptela/utils/vlog using logger; that needs
# - create/connect unix_dgram_socket of type polaris_admin_tech_t
# - read from devtmpfs of type devlog_t
# - write to sock_file of type devlog_t
# - sendto path="/run/systemd/journal/dev-log" of type unix_dgram_socket
    logging_send_syslog_msg(polaris_admin_tech_t)

# maapi --cliget paginate: this performs connect to confd socket
    polaris_ripc_confd_ipc_connect(polaris_admin_tech_t)

# reads /tmp/chassis/cpld/chasfs/board_vtype
# on c8kv cpld is at /sys/bus/platform/devices/cpld which has sysfs_t LABEL
    polaris_cpld_read(polaris_admin_tech_t)

# handle various files created under /tmp
    type polaris_admin_tech_tmp_t;
    files_tmp_file(polaris_admin_tech_tmp_t)
    files_tmp_filetrans(polaris_admin_tech_t, polaris_admin_tech_tmp_t, file)
    manage_files_pattern(polaris_admin_tech_t, polaris_admin_tech_tmp_t, polaris_admin_tech_tmp_t)

# As part of admin-tech generation on cEdges, vconfd_script_polaris_admin_tech.sh
# invokes vconfd_script_polaris_admin_tech_child.sh which in turn invokes the
# script sdwan_tech_support.sh. The sdwan_tech_support.sh passes the file
# /tmp/sdwan_tech_support_command_file_out.txt to a bshell instance. The bshell
# instance does open operation on the file. So bshell needs open allow
# policy for /tmp/sdwan_tech_support_command_file_out.txt
gen_require("
    type polaris_bshell_t;
"
)  
allow polaris_bshell_t polaris_admin tech tmp t:file open;

# maapi needs this.
allow polaris_admin tech_t self:tcp socket { getopt setopt create connect read write };

# tar --ignore-failed-read -czf /home/vmanage-admin/vm4-20200903-055157-admin-tech.tar.gz
#   /tmp/fp/trace/cpp_cp_F0-0_TAN.20041_0.20
allow polaris_admin tech_t self:capability dac override;

# awk /^Shared/ {v += $2} END { print v} /proc/6384/smaps
allow polaris_admin tech_t self:capability sys ptrace;

# 'top -n1 -b' creates /.config dir
# TODO/LOOKATME: selinux team to review handling of this issue in a
# common way for invoking top
allow polaris_admin tech_t root t:dir create;

# 'show installerfs' is invoked by vconfd script admin tech common.sh
# this invokes vconfd script show installerfs.sh via confd
# let's execute this under install_show domain
polaris_install_show domtrans(polaris_confd_t)

# create bootflash snapshot() performs 'ls -l /bootflash/installer'
polaris_disk install read(polaris_admin tech_t)

# vconfd script polaris admin tech child.sh
# mv /bootflash/admintech /var/tech/ios
allow polaris_admin tech_t self:process setfscreate;

# rm -rf $collated ra (collated_log_*)

#Nutella-XE - Vedge image install
#/bin/sh /tmp/sw/rp/0/0/rp_security/mount/bin/sw syncdb
#mount -t vfat /dev/mmcblk0gp0p1 /gpp
mount domtrans(polaris_confd_t)

#df /bootflash
fstools domtrans(polaris_confd_t)

#Nutella-XE - Vedge image activate
#/usr/bin/os/bin/flashutil --command unsetvar --name MIG_INT_STATE
polaris_flashlib_write(polaris_confd_t)

# permit comm="ps" to "getattr" on dev="devtmpfs" for polaris_admin tech t
term getattr unallocated ttys(polaris_admin tech t)
# permit to access polaris_proc_rmonbifo_t by
# /usr/bin/vconfd_script_admin_tech.sh
polaris_proc_rmonbifo_read(polaris_admin_tech_t)

# permit to access/unlink /bootflash by polaris_admin_tech_t
polaris_bootflash_manage(polaris_admin_tech_t)

# vconfd_script_admin_tech.sh executes 'top -n1 -b' which creates /.config dir
gen_require(
    type admin_home_t;
')
allow polaris_admin_tech_t admin_home_t:dir { add_name create write };

# vconfd_script_admin_tech.sh sources vconfd_script_cli_session.sh and calls
# start_cli_session() which writes to /tmp/vconfd/USID.XXX,
# /tmp/vconfd/THANDLE.YYY and /tmp/vconfd/start_cli.XXXXXXXXXX
polaris_vconfd_tmp_manage(polaris_admin_tech_t)

# work with "/tmp/fp/pvp/work/inot_fifo"
polaris_pvp_stdio_read(polaris_admin_tech_t)

# work with "/tmp/fp/trace/fifo/pvp_sh%fp_0_0_22607_fifo"
polaris_use_btrace_fifo(polaris_admin_tech_t)

# access to tunnel interface from snapshot_cdb()
corenet_rw_tun_tap_dev(polaris_confd_t)

# access to /tmp/bootstrap/sdwan/ciscosdwan_cloud_init.cfg
init_read_script_tmp_files(polaris_confd_t)

# "vconfd_notifier security-clear-installed-cert" reads
# /var/run/netns/default which is symlinked to /proc/1/ns/net
polaris_edge_reset_ns(polaris_confd_t)

# allow /usr/binos/conf/execute_confd_cli.sh to access polaris_disk_install_t
polaris_disk_install_read(polaris_confd_cli_t)

# vconfd script ends up cleaning core files, most likely its
# vconfd_script_polaris_admin_tech_child.sh, so it needs read/write
# permission to polaris_core_file_t files.
polaris_core_file_manage(polaris_admin_tech_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisconfd.te
No license file was found, but licenses were detected in source scan.

#
# OWNERS - Code Ownership
#
# For information on the purpose and format of this file see:
#
# Copyright (c) 2019-2021 by Cisco Systems, Inc.
# All rights reserved.
#
*
@csg/polaris-selinux-dev

#iox team related files
polariscontainer* @csg/polaris-selinux-dev @csg/iox-selinux
polariscaf* @csg/polaris-selinux-dev @csg/iox-selinux
polarisgsdrp* @csg/polaris-selinux-dev @csg/iox-selinux
polarisioxman* @csg/polaris-selinux-dev @csg/iox-selinux
polarisvman* @csg/polaris-selinux-dev @csg/iox-selinux

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/OWNERS
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
### <summary>Polaris lm Policy Rules.</summary>

#########################################################################
### <summary>
###     Read files of type polaris_lm_tmp_t (e.g., /tmp/iosd_level)
### </summary>
### <param name="domain">
###     Domain allowed access.
### </param>
#
interface('polaris_lm_tmp_read',
    gen_require(
        type polaris_lm_tmp_t;
    ')
    read_files_pattern($1, polaris_lm_tmp_t, polaris_lm_tmp_t)
')
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislm.if
No license file was found, but licenses were detected in source scan.

# # August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris nmspd Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismnspd.if
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define('polaris_database_aux',
dnl
################################
## <summary>
##	Use $2 database.
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed access.
##
## </param>
## <infoflow type="none"/>
#
interface(`polaris_db_tdldb_$1_use`,
  gen_require(
    type $2;
  )
  polaris_tdldb_use(dollarsone, $2, $3)
  )
)

define('polaris_database',
polaris_database_aux(database_stem($1), database_label($1), $1)dnl
')
define('polaris_database_process',"")

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_database_db_if.m4
No license file was found, but licenses were detected in source scan.

# # March 2017, Victor Kamensky #
# # Copyright (c) 2016-2021 by Cisco Systems, Inc. # All rights reserved #

policy_module(polarishm, 1.0);

gen_require(
    type polaris_hm_t;
')

polaris_btrace_data_manage(polaris_hm_t)
polaris_chasfs_manage(polaris_hm_t)
polaris_tdlresolve_read(polaris_hm_t)
polaris_tdlldb_list_dirs(polaris_hm_t)
polaris_cpld_read(polaris_hm_t)
polaris_lua_read(polaris_hm_t)
polaris_flashlib_read(polaris_hm_t)
polaris_ripc_sman_ui_serv_connect(polaris_hm_t)
polaris_db_tdlldb_dir_use(polaris_hm_t)
files_getattr_all_files(polaris_hm_t)
files_getattr_all_dirs(polaris_hm_t)
gen_require(
    attribute non_security_file_type;
')
allow polaris_hm_t { non_security_file_type };dir list_dir_perms;

# hman need to read proc for all processes to collect CPU utilization information
domain_read_all_domains_state(polaris_hm_t)
domain_signull_all_domains(polaris_hm_t)
kernel_read_system_state(polaris_hm_t)

# hman needs to run ”df /dev/shm” command
corecmd_exec_bin(polaris_hm_t)
corecmd_exec_shell(polaris_hm_t)
# hman needs to operate on all maroon files
polaris_maroon_data_manage_all(polaris_hm_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_hm_t)

fs_getattr_tmpfs(polaris_hm_t)

# work with /tmp files (/tmp/myhostname)
type polaris_hm_tmp_t;
files_tmp_file(polaris_hm_tmp_t)
manage_files_pattern(polaris_hm_t, tmp_t, polaris_hm_tmp_t)
files_tmp_filetrans(polaris_hm_t, polaris_hm_tmp_t, file, "myhostname")

allow polaris_hm_t self:capability { chown fsetid dac_override kill sys_resource sys_ptrace }; allow polaris_hm_t self:process setsched; allow polaris_hm_t self:unix_dgram_socket create; allow polaris_hm_t self:cap_users { kill sys_ptrace }; polaris_boot_tmp_read(polaris_hm_t)

# Allow write to flash. Needed for usb disable feature
ifdef(`ngwc_family',`
polaris_flashlib_write(polaris_hm_t)
')

fs_getattr_all_fs(polaris_hm_t)
# above show command accesses /var/run/netns/2
fs_read_nsfs_files(polaris_hm_t)
# reads /scratch link which is labeled as polaris_disk_bootflash_t
polaris_disk_bootflash_read_lnk(polaris_hm_t)
polaris_disk_harddisk_read_lnk(polaris_hm_t)

# needed for "show platform software bound-uds RP active"
kernell_read_network_state(polaris_hm_t)

# "show rom-monitor R0" needs content of /proc/rmonbifo/bootver;
# please refer to hman_ui.tpp file
polaris_proc_rmonbifo_read(polaris_hm_t)

# "show plat soft yang-management process r0" invokes hm_show_yang_proc_cb;
# "show plat soft iox-service" invokes hm_iox_srvc_show_cb;
# They invoke "ps -C" which needs access to /sys/devices/system/cpu/online
# TODO: should we replace system() with something like hm_get_procs_with_name_running
dev_read_sysfs(polaris_hm_t)
# "show platform software yang-management process state" invokes /bin/mcp_pkg_wrap,
# which sources /tmp/sw/boot/rmonbifo/env_var.sh
polaris_rmonbifo_tmp_read(polaris_hm_t)
# show iox-service requires reading of libvirt_ver of created under CAF context
optional_policy(
    polaris_caf_tmp_files_read(polaris_hm_t)
)
# hardcoded policy for hm to df, per Victor
optional_policy(
    gen_require(
        type polaris_iosd_portal_dmi_lipc_t;
        type polaris_iosd_portal_app_lipc_t;
    )
    allow polaris_hm_t { polaris_iosd_portal_dmi_lipc_t polaris_iosd_portal_app_lipc_t }:sock_file getattr;
)

# during "show version installed" command
# "grep -q srdriver /tmp/sw/rp/local/0/rp_base/iso" which is link to the universal image
polaris_bootflash_read(polaris_hm_t)
# this is for calcsa.sh (invoked by the command above) but might work for others too
polaris_install_engine_domtrans(polaris_hm_t)
# this if for hman to read and delete /tmp/version.info created by calcsa.sh in prev context type
polaris_install_tmp_read(polaris_hm_t)
gen_require(
    type polaris_install_tmp_t;
)
allow polaris_hm_t polaris_install_tmp_t:file unlink;

# need open, read on /bootflash/packages.conf (grep sha1sum: /tmp/packages.conf)
polaris_read_packages_conf(polaris_hm_t)

# This is created for hman to grant it access to /bootflash/topnmemuse
polaris_bootflash_manage(polaris_hm_t)

# read /tmp/pkg_summary.txt file
polaris_pkg_summary_tmp_read(polaris_hm_t)

polaris_zram_getattr(polaris_hm_t)

optional_policy(
    polaris_ssd_auth_domtrans(polaris_hm_t)
)

optional_policy(
    polaris_ssdUnmount_domtrans(polaris_hm_t)
)

optional_policy(}
polaris_confdomtrans(polaris_hm_t)
')

# show platform software process slot R0 monitor
# mcp_monitor_process_batchmode.sh
#/bin/sh /usr/binos/conf/bexec.sh -c /usr/binos/conf/mcp_monitor_process_batchmode.sh -n 1 -d 3 -l 0

polaris_utility_domain_template(monitor_process)
polaris_bexecute_domtrans(polaris_hm_t)
polaris_bexecute_domain(polaris_monitor_process_t, polaris_monitor_process_exec_t)

# mcp_monitor_process_batchmode.sh calls "top" command
# "top" needs read/getattr access of various files in the system
domain_read_all_domains_state(polaris_monitor_process_t)

# "top" needs access to /sys/devices/system/cpu/online, etc
dev_read_sysfs(polaris_monitor_process_t)

# "top" need read access to /proc/meminfo, /proc/stat
kernel_read_system_state(polaris_monitor_process_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_monitor_process_t)

# need write/ioctl/getattr access for pipes like "pipe:[118396]"
polaris_hman_use_fifo(polaris_monitor_process_t)
corecmd_exec_bin(polaris_monitor_process_t)

gen_require(
  type admin_home_t;
')
#top -b -n3 -d3 needs permission to create dir /.config ,write
#to files and add files
allow polaris_monitor_process_t admin_home_t:dir { add_name create write };
allow polaris_monitor_process_t self:capability sys_ptrace;

pkg_summary.sh : show version R0 installed
#/bin/bash /usr/binos/conf/pkg_summary.sh -o /tmp/pkg_summary.txt -d model -P
	polaris_utility_domain_template(pkg_summary)
polaris_pkg_summary_domtrans(polaris_hm_t)

# it executes find /tmp/sw -maxdepth 5 -mindepth 5 -name mount
files_getattr_all_dirs(polaris_pkg_summary_t)
files_getattr_all_files(polaris_pkg_summary_t)
files_read_all_dirs_except(polaris_pkg_summary_t)

polaris_chasfs_read(polaris_pkg_summary_t)
polaris_cpld_read(polaris_pkg_summary_t)
polaris_use_btrace_fifo(polaris_pkg_summary_t)
polaris_rmonbifo_tmp_read(polaris_pkg_summary_t)
polaris_btrace_data_manage(polaris_pkg_summary_t)
polaris_boot_tmp_read(polaris_pkg_summary_t)

# need open, read on /bootflash/debug.conf
polaris_read_debug_conf(polaris_pkg_summary_t)

polaris_read_packages_conf(polaris_pkg_summary_t)

allow polaris_pkg_summary_t self:capability sys_resource;

corecmd_exec_bin(polaris_pkg_summary_t)

auth_use_nsswitch(polaris_pkg_summary_t)

polaris_disk_crashinfo_getattr(polaris_pkg_summary_t)

# read /proc/cmdline
kernel_read_system_state(polaris_pkg_summary_t)

# handle /tmp/pkg_summary.txt file
type polaris_pkg_summary_tmp_t;
files_tmp_file(polaris_pkg_summary_t);
files_tmp_filetrans(polaris_pkg_summary_t, polaris_pkg_summary_tmp_t, file)
manage_files_pattern(polaris_pkg_summary_t, polaris_pkg_summary_tmp_t, file)

#########################################################################
#########################################################################
# pkg_to_tree.sh   : Generates a software tree based on a provisioning file.
# /bin/bash /usr/binos/conf/pkg_to_tree.sh -c /tmp/packages.conf
#           -t /tmp/show_patch_provision_temp -p /tmp/sw/isos
#           -r /tmp/show_provision_temp -a -q
#########################################################################
#########################################################################

polaris_utility_domain_template(pkg_to_tree)

gen_require(`
type unconfined_service_t;

polaris_pkg_to_tree_domtrans((unconfined_service_t polaris_hm_t))

files_getattr_all_files(polaris_pkg_to_tree_t)
polaris_harddisk_read(polaris_pkg_to_tree_t)
polaris_cpld_read(polaris_pkg_to_tree_t)
polaris_use_btrace_fifo(polaris_pkg_to_tree_t)
polaris_rmonbifo_tmp_read(polaris_pkg_to_tree_t)
polaris_btrace_data_manage(polaris_pkg_to_tree_t)
polaris_boot_tmp_read(polaris_pkg_to_tree_t)
polaris_patch_data_manage(polaris_pkg_to_tree_t)

# if being executed on other node, telnet /dev/ptsN might be used
# as stdin/stdout
telnet_use_ptys(polaris_pkg_to_tree_t)

# pkg_to_tree.sh creates/deletes directories and files under
# /tmp/show_provision_temp
type polaris_show_provision_tmp_t;
files_tmp_file(polaris_show_provision_tmp_t)
polaris_show_provision_temp_manage(polaris_pkg_to_tree_t)

# pkg_to_tree.sh verifies each package as it is mounted
polaris_code_verify_domtrans(polaris_pkg_to_tree_t)
corecmd_exec_bin(polaris_pkg_to_tree_t)
polaris_disk_crashinfo_getattr(polaris_pkg_to_tree_t)

# manage the /tmp/lf symbolic link
type polaris_pkg_to_tree_tmp_t;
files_tmp_file(polaris_pkg_to_tree_tmp_t)
files_tmp_filetrans(polaris_pkg_to_tree_t, polaris_pkg_to_tree_tmp_t, lnk_file, "lf")
manage_lnk_files_pattern(polaris_pkg_to_tree_t, polaris_pkg_to_tree_tmp_t, polaris_pkg_to_tree_tmp_t)

# permit pkg_to_tree.sh mounting to use conf/pkg files in bootflash
polaris_bootflash_read(polaris_pkg_to_tree_t)
polaris_disk_bootflash_search(polaris_pkg_to_tree_t)

# we want to read the existing mounts in chasfs
polaris_chasfs_read(polaris_pkg_to_tree_t)

# pkg_to_tree.sh interfaces with installer data, including ISSU files
polaris_install_tmp_log_write(polaris_pkg_to_tree_t)
polaris_sw_data_manage(polaris_pkg_to_tree_t)
polaris_read_packages_conf(polaris_pkg_to_tree_t)
polaris_issu_tmp_files_manage(polaris_pkg_to_tree_t)
polaris_install_tmp_manage(polaris_pkg_to_tree_t)

# allow pkg_to_tree.sh to do the loopback mounts of packages and manage
# mount links in tmp. This includes mapping mounted passwd file and
# mounting sysfs. This is also needed to mount /mnt/sd3/iox_alt_hdd.dsk
mount_domtrans(polaris_pkg_to_tree_t)
auth_map_passwd(polaris_pkg_to_tree_t)
dev_list_sysfs(polaris_pkg_to_tree_t)
allow polaris_pkg_to_tree_t sysfs_t:file { getattr open read };
allow polaris_pkg_to_tree_t tmp_t:lnk_file { create rename unlink };

# when expanding/installing super images, pkg_to_tree uses install_engine_exec_t
# utilities like issu_check
polaris_install_engine_domtrans(polaris_pkg_to_tree_t)

#########################################################################
# misc hmant cli(s)
#########################################################################

# hman needs access to /bootflash/.issu_loc_lock
polaris_issu_files_manage(polaris_hm_t)

# hman process creates/deletes directories and files under
# /tmp/show_provision_temp
polaris_show_provision_temp_manage(polaris_hm_t)

# signal send during show platform software process slot R0 monitor
polaris_send_signal_to_bexecute(polaris_hm_t)

polaris_dyncfg_tmp_read(polaris_hm_t)

polaris_disk_crashinfo_getattr(polaris_hm_t)

# setting up /dev/ttyS0 speed from hman_handle_console_baud_rate_change
term_use_unallocated_ttys(polaris_hm_t)

# allow to send message to /dev/log
logging_send_syslog_msg(polaris_hm_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_hm_t)

# hman starts agetty-iosd.service in case of nyquist stack
getty_systemctl(polaris_hm_t)

# This block is policies for "sh pla so filesystem bootflash: de" CLI
polaris_utility_domain_template(cli_fs_cmds)
gen_require("
    type polaris_bexecute_t;
")
polaris_bexecute_domtrans(polaris_cli_fs_cmds_t)
polaris_cli_fs_cmds_domtrans(polaris_bexecute_t)
telnet_use_ptys(polaris_cli_fs_cmds_t)

# Blanket permission for disk management for cli_fs_cmds (for show/erase fs)
polaris_persistent_manage(polaris_cli_fs_cmds_t)
# permission to manage removable (seems pretty safe)
polaris_removable_manage(polaris_cli_fs_cmds_t)
polaris_getattr_removable(polaris_cli_fs_cmds_t)
fs_read_removable_symlinks(polaris_cli_fs_cmds_t)
# btrace.sh needs these
polaris_boot_tmp_read(polaris_cli_fs_cmds_t)
polaris_btrace_tmppub_read(polaris_cli_fs_cmds_t)
# this is for NFS access mounted in a dir of ncd context
optional_policy("
    polaris_ncd_tmp_read(polaris_cli_fs_cmds_t)
"
)

# need to access pipes like pipe:[107820]
polaris_hman_use_fifo(polaris_cli_fs_cmds_t)

# df or stat the mount point
fs_getattr_nfs(polaris_cli_fs_cmds_t)
# mkfs permissions via domtrans
fstools_domtrans(polaris_cli_fs_cmds_t)
# runs NFS exportfs (copied from ncd)
rpc_readExports(polaris_cli_fs_cmds_t)
rpc_writeExports(polaris_cli_fs_cmds_t)
rpc_manage_nfs_state_data_dir(polaris_cli_fs_cmds_t)
rpc_manage_nfs_state_data(polaris_cli_fs_cmds_t)
fs_rw_nfsd_fs(polaris_cli_fs_cmds_t)
kernel_rw_rpc_sysctls(polaris_cli_fs_cmds_t)
fs_getattr_xattr_fs(polaris_cli_fs_cmds_t)
# sync/remote_format perms (rsync borrowed from polariscrft.te)
polaris_udev_tmp_list_dirs(polaris_cli_fs_cmds_t)
genRequire("
    type rsync_exec_t;
    type rsync_port_t;
    type rsync_tmp_t;
"
)
allow polaris_cli_fs_cmds_t rsync_port_t:tcp_socket name_connect;
allow polaris_cli_fs_cmds_t rsync_exec_t:file {execute execute_no_trans getattrs map open read};

allow polaris_cli_fs_cmds_t rsync_tmp_t:file open;
allow polaris_cli_fs_cmds_t self:capability { chown fsetid setgid }

# Need to access /proc/self/fd/1 by platform_fs_operation.sh which is invoked by
#/bin/bash/usr/bin/os/conf/mcp_cli_fs_cmds.sh show bootflash:all
fs_associate_proc(polaris_cli_fs_cmds_t)

polaris_cli_fs_cmds_domtrans(polaris_hm_t)

corecmd_exec_bin(polaris_cli_fs_cmds_t)
polaris_epld_read(polaris_cli_fs_cmds_t)
polaris_chasfs_manage(polaris_cli_fs_cmds_t)
polaris_use_btrace_fifo(polaris_cli_fs_cmds_t)
polaris_rmonbifo_tmp_read(polaris_cli_fs_cmds_t)

auth_use_nsswitch(polaris_cli_fs_cmds_t)

# allow polaris_cli_fs_cmds_t polaris_udev_tmp_files_t:file open;
polaris_udev_tmp_read(polaris_cli_fs_cmds_t)
#watch on modify /tmp/udev/etc/udev/usbflash1-2/udev-info for remote/stby usb device
polaris_udev_tmp_watch(polaris_cli_fs_cmds_t)

# allow to run mount in its own domain
mount_domtrans(polaris_cli_fs_cmds_t)
# runs systemctl to remount file system.
# usb[01] fs_target remount service used.
systemd_exec_systemctl(polaris_cli_fs_cmds_t)
systemd_config_generic_services(polaris_cli_fs_cmds_t)

# allow to run readlink -f /dev/bootflash
storage_getattr_fixed_disk_dev(polaris_cli_fs_cmds_t)

# allow "format" CLI to add/delete links in /dev/, and /; e.g., /dev/harddisk1 /harddisk
ifdef("crankshaft_family",
   gen_require(
      type device_t;
      type root_t;
      type udev_t;
   )
   
   #/dev/harddisk1 /dev/harddisk1 -> /dev/dm-0
   filetrans_pattern({udev_t polaris_cli_fs_cmds_t}, device_t, fixed_disk_device_t, lnk_file, "harddisk1")
   filetrans_pattern({udev_t polaris_cli_fs_cmds_t}, device_t, fixed_disk_device_t, lnk_file, "harddisk")
   
   #/harddisk -> /misc/scratch
   filetrans_pattern(polaris_cli_fs_cmds_t, root_t, polaris_disk_bootflash_t, lnk_file, "harddisk")
   
   manage_lnk_files_pattern(polaris_cli_fs_cmds_t, fixed_disk_device_t, fixed_disk_device_t)
   )
seutil_domtrans_setfiles(polaris_cli_fs_cmds_t)
polaris_hman_use_fifo(setfiles_t)
# need open, read on /bootflash/packages.conf
polaris_read_packages_conf(polaris_cli_fs_cmds_t)

# "sed" needs access to /proc/cmdline
kernel_read_system_state(polaris_cli_fs_cmds_t)

# work with /tmp files (/tmp/fs_lock_bootflash)
type polaris_cli_fs_cmds_tmp_t;
gen_require(
    type tmp_t;
)
files_tmp_file(polaris_cli_fs_cmds_tmp_t)
manage_files_pattern(polaris_cli_fs_cmds_t, tmp_t, polaris_cli_fs_cmds_tmp_t)
files_tmp_filetrans(polaris_cli_fs_cmds_t, polaris_cli_fs_cmds_tmp_t, file)

="#find /vol/disk0/caf" when show CLI is executed
polaris_caf_tmp_files_read(polaris_cli_fs_cmds_t)

#Caf and IOxMan-CLI interaction
polaris_caf_tmp_files_manage(polaris_cli_fs_cmds_t)

# mcp_cli_fs_cmds.sh show webui: all runs df -P /webui
fs_getattr_tmpfs(polaris_cli_fs_cmds_t)
polaris_persistent_getattr(polaris_cli_fs_cmds_t)
fs_getattr_xattr_fs(polaris_cli_fs_cmds_t)
allow polaris_cli_fs_cmds_t self:capability dac_override;
allow polaris_cli_fs_cmds_t self:dir { add_name write };

# allow caf access to mcp_cli_fs_cmds.sh for fsck on ngwc platforms
ifdef(`ngwc_family',`
domain_read_all_domains_state(polaris_cli_fs_cmds_t)
polaris_caf_domtrans(polaris_cli_fs_cmds_t)
polaris_caf_files_read(polaris_cli_fs_cmds_t)
dev_read_sysfs(polaris_cli_fs_cmds_t)
')

################################################################################
# fsck CLI using mcp_cli_fs_cmds.sh as tested on sparrow
################################################################################
# allow fsck in mcp_cli_fs_cmds.sh to execute udev in the udev domain
udev_domtrans(polaris_cli_fs_cmds_t)
# allow cryptsetup to be executed
lvm_domtrans(polaris_cli_fs_cmds_t)
# allow fsck to run on bootflash
polaris_nvram_getattr(polaris_cli_fs_cmds_t)

# during SDWAN admin-tech generation, fs_display_*() in mcp_cli_fs_cmds.sh is
# invoked; this tries to find files like /bootflash/tracelogs/cia-netcon* with
# LABEL polaris_conf'd var_log_t
polaris_conf'd var_log_read(polaris_cli_fs_cmds_t)

################################################################################
# hm calls df to figure out tmpfs size, on some platforms
# where configfs is mounted it needs statfs access to it
gen_require(
    type configfs_t;
')
allow polaris_hm_t configfs_t:dir getattr;

# hm populates vrf_shm on behalf of iosd, and may create
# and delete vrf-based netns
polaris_vrf_netns_manage(polaris_hm_t)
fsUnmount_nsfs(polaris_hm_t)

#read udev_info
polaris_udev_tmp_read(polaris_hm_t)

gen_require('
    type rsync_t;
')
allow rsync_t polaris_hm_t:fifo_file read;

################################################################################
# show platform software yang-management process monitor
# mcp_monitor_dmi_proc.sh
#/bin/bash /bin/mcp_pkg_wrap rp_daemons /usr/bin/os/conf/mcp_monitor_dmi_proc.sh

polars_utility_domain_template(monitor_dmi_process)
polars_bexecute_domain(polars_monitor_dmi_process_t, polaris_monitor_dmi_process_exec_t)

# mcp_monitor_dmi_proc.sh calls "ps" command
# "ps" needs read/getattr access of various files in the system
# ps -eo comm,pid,s,vsize,rssize,%cpu,%mem,etime --sort=comm
domain_read_all_domains_state(polars_monitor_dmi_process_t)

# "ps" needs access to /proc/uptime
kernel_read_system_state(polars_monitor_dmi_process_t)

# "ps" needs access to /sys/devices/system/cpu/online, etc
devel_read_sysfs(polars_monitor_dmi_process_t)

# "ps" need read access to /proc
kernel_list_proc(polars_monitor_dmi_process_t)
# allow read of /etc/passwd
auth_use_nsswitch(polaris_monitor_dmi_process_t)

# executes head command
corecmd_exec_bin(polaris_monitor_dmi_process_t)

# sources cyan_api.sh
files_exec_usr_files(polaris_monitor_dmi_process_t)

# /bin/bash /tmp/sw/rp/0/0/rp_daemons/mount/usr/binos/conf/mcp_monitor_dmi_proc.sh
corecmd_shell_entry_type(polaris_monitor_dmi_process_t)

# need write/ioctl/getattr access for pipes like "pipe:[79843]"
polaris_hman_use_fifo(polaris_monitor_dmi_process_t)

# read /etc/init.d/quad_sup_usb_infra.sh
init_read_script_files(polaris_cli_fs_cmds_t)
# This triggers access to /tmp/flashlock and /dev/sda3
polaris_flashlib_lock(polaris_cli_fs_cmds_t)
# allow flash utility
polaris_flashlib_read(polaris_cli_fs_cmds_t)
# /sys/bus/usb/drivers/usb/*/authorized is accessed (read and write) from hman.
# For USB disable feature across all ngwc platforms needs authorized file to
# be accessed.
ifdef(`ngwc_family',`
    gen_require(`
        type sysfs_t;
        ')
    allow polaris_hm_t sysfs_t:file create;
    dev_rw_sysfs(polaris_hm_t)
    dev_manage_sysfs_dirs(polaris_hm_t)
    ')

# work with /tmp files (/tmp/usb-disable)
polaris_iosd_usb_disable_tmp_manage(polaris_hm_t)

# need access to tmp files created under issu directory
polaris_issu_tmp_files_read(polaris_hm_t)

# HMMAN calls for checking database compactability
# tdllib_db_epoch_test is requires access to /tmp/issu/provision/sw-running.txt
polaris_install_tmp_read(polaris_hm_t)

optional_policy(`
    polaris_efi_files_list_dirs(polaris_cli_fs_cmds_t)
    ')

# Execute hdpres in its own domain
fstools_domtrans(polaris_hm_t)

# Allow polaris_hm to get attributes of fixed disk
storage_getattr_fixed_disk_dev(polaris_hm_t)

# Allow read to ssd auth tmp files /tmp/ssd_blk_device
polaris_read_ssd_tmp_files(polaris_hm_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarishm.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris ngwc_tbl_mgr Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwctblmgr.if
No license file was found, but licenses were detected in source scan.

#
# September 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris polarisbtman Policy Rules.</summary>

##########################################################################
### <summary>
### Execute fs tools in the btrace_rotate domain.
### </summary>
### <param name="domain">
### Domain allowed to transition.
### </param>
#
interface('polaris_btrace_rotate_domtrans',
gen_require(''
type polaris_btman_t, polaris_btman_exec_t;'
)
corecmd_search_bin($1)
domtrans_pattern($1, polaris_btman_exec_t, polaris_btman_t)
')

########################################
## <summary>
##      Read /tmp/tmppub files/dirs
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_btrace_tmppub_read',
   gen_require(
      type polaris_btrace_tmppub_t;
   ')
read_files_pattern($1, polaris_btrace_tmppub_t, polaris_btrace_tmppub_t)
read_lnk_files_pattern($1, polaris_btrace_tmppub_t, polaris_btrace_tmppub_t)
list_dirs_pattern($1, polaris_btrace_tmppub_t, polaris_btrace_tmppub_t)
')

########################################
## <summary>
##      Manage /tmp/tmppub files/dirs
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_btrace_tmppub_manage',
   gen_require(
      type polaris_btrace_tmppub_t;
   ')
manage_files_pattern($1, polaris_btrace_tmppub_t, polaris_btrace_tmppub_t)
manage_dirs_pattern($1, polaris_btrace_tmppub_t, polaris_btrace_tmppub_t)
')

########################################
##	Read and write all btman's fifo file, used as
##      standard input/output.
interface('polaris_webui_file_t',
    gen_require(''
        type polaris_webui_file_t;
    ')
)
read_files_pattern($1, polaris_webui_file_t, polaris_webui_file_t)
read_lnk_files_pattern($1, polaris_webui_file_t, polaris_webui_file_t)
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris NVRAM Policy Rules.</summary>

# Polaris lsmpi

## <summary>Work (read, write, ioctl) with /dev/lsmpi device.</summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolebase/>

interface(`polaris_lsmpi_dev_use`,
  gen_require(`
    type device_t;
    type polaris_lsmpi_device_t;
  `)
)
write_chr_files_pattern($1, device_t, polaris_lsmpi_device_t)
read_chr_files_pattern($1, device_t, polaris_lsmpi_device_t)
allow $1 polaris_lsmpi_device_t:chr_file map;
)

#########################################################################
## <summary>
##    Read lsmpi sysctl file, ie one under /proc/sys/lsmpi and
##    /proc/sys/lsmpi_lodrv directories.
## </summary>
## <param name="domain">
##    <summary>
##    Domain allowed access.
##    </summary>
## </param>
## <rolebase/>
#
interface('polaris_lsmpi_sysctl_read',
  gen_require('type polaris_sysctl_lsmpi_t;
  ')
  read_files_pattern($1, polaris_sysctl_lsmpi_t, polaris_sysctl_lsmpi_t)
')

#########################################################################
## <summary>
##    Read from /sys/devices/virtual/contdev sysfs files.
## </summary>
## <param name="domain">
##    <summary>
##    Domain allowed access.
##    </summary>
## </param>
#
interface('polaris_contdev_dev_read',
  gen_require('type polaris_sysfs_contdev_t;
              type sysfs_t;
  ')
  read_files_pattern($1, polaris_sysfs_contdev_t, polaris_sysfs_contdev_t)
  list_dirs_pattern($1, polaris_sysfs_contdev_t, polaris_sysfs_contdev_t)
  # genfscon statement specifically excludes symbolic links from
  # genfscon path specific entries. To workaround, let us allow
  # to follow sysfs_t symbolic links
  allow $1 sysfs_t:lnk_file read;
')
### <summary>
### Write into /sys/devices/virtual/contdev sysfs files.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>

```
interface('polaris_contdev_dev_write',
gen_require(`
type polaris_sysfs_contdev_t;
type sysfs_t;
`)
write_files_pattern($1, polaris_sysfs_contdev_t, polaris_sysfs_contdev_t)
# genfscon statement specifically excludes symbolic links from
# genfscon path specific entries. To workaround, let us allow
# to follow sysfs_t symbolic links
allow $1 sysfs_t:lnk_file read;
```

### <summary>
### Manage /sys/devices/virtual/contdev sysfs files.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>

```
interface('polaris_manage_contdev_dev',
gen_require(`
type polaris_sysfs_contdev_t;
type sysfs_t;
`)
manage_files_pattern($1, polaris_sysfs_contdev_t, polaris_sysfs_contdev_t)
manage_dirs_pattern($1, polaris_sysfs_contdev_t, polaris_sysfs_contdev_t)
# genfscon statement specifically excludes symbolic links from
# genfscon path specific entries. To workaround, let us allow
# to follow sysfs_t symbolic links
allow $1 sysfs_t:lnk_file read;
```

### <summary>
### Allow the specified domain to manage punt/inject socket
### </summary>
## files. I.e. /tmp/pi/dp_2_iosd_pi and /tmp/pi/iosd_2_dp_pi
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_pi_uds_manage`,
    gen_require(`
        type polaris_pi_uds_t;
    `)
)

manage_sock_files_pattern($1, polaris_pi_uds_t, polaris_pi_uds_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarislsmpi.if
No license file was found, but licenses were detected in source scan.
#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
/usr/binos/conf/issu_stack.sh -- gen_context(system_u:object_r:polaris_issu_stack_exec_t,s0)
/tmp/issu_stk(/.*)?       gen_context(system_u:object_r:polaris_issu_stack_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarississustack.fc
No license file was found, but licenses were detected in source scan.
#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
# polarismnspd file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismnspd.fc
No license file was found, but licenses were detected in source scan.
policy_module(polarisxcopy, 1.0);

### xcopy_script.sh
polaris_utility_domain_template(xcopy_script)
polaris_bexecute_domain(polaris_xcopy_script_t, polaris_xcopy_script_exec_t)
# xcopy_script.sh call other scripts through brelay.sh
polaris_bexecute_domtrans(polaris_xcopy_script_t)
polaris_chasfs_manage(polaris_xcopy_script_t)

# xcopy calls curl/sshpass/scp command and support scp/http/https
gen_require(
    type polaris_curl_t;
    type ssh_exec_t;
    type ssh_home_t;
    type devpts_t;
    )
polaris_curl_domtrans(polaris_xcopy_script_t)
corenet_tcp_connect_ssh_port(polaris_curl_t)
corenet_tcp_connect_http_port(polaris_curl_t)
corenet_tcp_connect_ssh_port(polaris_xcopy_script_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_xcopy_script_t)

# read polaris vrf net namespace file
fs_read_nsfs_files(polaris_xcopy_script_t)

# curl needs access to bootflash
polaris_bootflash_manage(polaris_curl_t)
polaris_bootflash_manage(polaris_xcopy_script_t)

# also need to be able to ls /tmp/ufs/ on ngwc
optional_policy(
    polaris_ncd_tmp_read(polaris_xcopy_script_t)
    )

# Execute
corecmd_exec_bin(polaris_xcopy_script_t)

# uses kernel utilities like pidof, stat
domain_read_all_domains_state(polaris_xcopy_script_t)
kernal_list_proc(polaris_xcopy_script_t)

# read /proc/cmdline
ekernal_read_system_state(polaris_xcopy_script_t)
fs_getattr_tmpfs(polaris_xcopy_script_t)
fs_getattr_xattr_fs(polaris_xcopy_script_t)

# xcopy started from the smand and needs fifo
polaris_smand_use_fifo(polaris_xcopy_script_t)

# ping to check reachability
netutils_domtrans_ping(polaris_xcopy_script_t)
#
# calls mcp_chvrf.sh for ping and curl
polaris_chvrf_domtrans(polaris_xcopy_script_t)

# xcopy uses ps to find the curl process state
# "ps" needs read access to /sys/devices/system/cpu/online
# "ps" needs read access to /proc/uptime
dev_read_sysfs(polaris_xcopy_script_t)

# Started by bexecute so it has its stdin set to telnet pty file
telnet_use_ptys(polaris_xcopy_script_t)

# stdout is set to fifo set by rotte to capture output into btrace
# btrace also need these policies :)
# btrace_init also refer to /tmp/sw/boot/
polaris_use_btrace_fifo(polaris_xcopy_script_t)
polaris_cpld_read(polaris_xcopy_script_t)
polaris_boot_tmp_read(polaris_xcopy_script_t)

# Allow /tmp/xcopy/
type polaris_xcopy_tmp_t;
files_tmp_file(polaris_xcopy_tmp_t)
files_tmp_filetrans(polaris_xcopy_script_t, polaris_xcopy_tmp_t, { dir file })
polaris_xcopy_tmp_manage(polaris_xcopy_script_t)

# Curl writes the progress...
polaris_xcopy_tmp_manage(polaris_curl_t)

# PS command access ttyS1
term_getattr_unallocated_ttys(polaris_xcopy_script_t)

# sshpass/scp
ssh_getattr_user_home_dir(polaris_xcopy_script_t)

# sshpass uses the ptmx
term_use_ptmx(polaris_xcopy_script_t)
term_getattr_pty_fs(polaris_xcopy_script_t)

# scp uses ssh
#allow polaris_xcopy_script_t ssh_exec_t:file { execute execute_no_trans map open read };
ssh_exec(polaris_xcopy_script_t)

allow polaris_xcopy_script_t self:capability {sys_resource fsetid};
allow polaris_xcopy_script_t self:process setfscreate;
allow polaris_xcopy_script_t ssh_home_t:dir { create search };
allow polaris_xcopy_script_t devpts_t:chr_file { getattr open read setattr write };

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisxcopy.te
No license file was found, but licenses were detected in source scan.

#
# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris dmi_ncsshd_fwd Policy Rules.</summary>

########################################
## <summary>
##     Connect to and send messages to dmi ncsshd_bp
## tmp/.ncsshd_bp.sock unix datagram sockets.
## </summary>
## <param name="domain">
##     <summary>
##     Domain allowed access.
##     </summary>
## </param>
#
interface(`polaris_dmi_ncsshd_fwd_dgram_send',`
gen_require(`
   type polaris_dmi_ncsshd_log_t;
   type polaris_dmi_ncsshd_fwd_t;
``
)

allow $1 self:unix_stream_socket {create_socket_perms};
allow $1 polaris_dmi_ncsshd_fwd_t:unix_stream_socket {connectto};
write_sock_files_pattern($1, polaris_dmi_ncsshd_log_t,polaris_dmi_ncsshd_log_t)
### <summary>
### Write into fifo file created by dmi_ncsshd_fwd, typical case when
### hman starts script under popen.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
### <rolecap/>
#
interface('polaris_dmi_ncsshd_fwd_use_fifo',
    gen_require('  
        type polaris_dmi_ncsshd_fwd_t;
    )
)

write_fifo_files_pattern($1, polaris_dmi_ncsshd_fwd_t, polaris_dmi_ncsshd_fwd_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmincsshdfwd.if

No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl define('polaris_database_aux','
dnl /tmp/rp/tldlb/0-9j/$2 -- gen_context(system_u:object_r:$1,s0)
/tmp/fp/tldlb/0-9j/$2 -- gen_context(system_u:object_r:$1,s0)
/tmp/cc/tldlb/0-9j/$2 -- gen_context(system_u:object_r:$1,s0)
/tmp/rp/tldlb/0-9j/$2\lock -- gen_context(system_u:object_r:$1,s0)
/tmp/fp/tldlb/0-9j/$2\lock -- gen_context(system_u:object_r:$1,s0)
/tmp/cc/tldlb/0-9j/$2\lock -- gen_context(system_u:object_r:$1,s0)
')

define('polaris_database','
nl polaris_database_aux(database_label($1), $1)
')

define('polaris_database_process',")

Found in path(s):
No license file was found, but licenses were detected in source scan.

# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris ioxman Policy Rules.</summary>

###########################################################
## <summary>
##      Manage ioxman temporary files and directories in /tmp.
## Like /tmp/ios_xml.dat.
## </summary>
#
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_iox_manage_tmp_files',
    gen_require(
        type polaris_iox_tmp_t;
    )
)
manage_files_pattern($1, polaris_iox_tmp_t, polaris_iox_tmp_t)
files_tmp_filetrans($1, polaris_iox_tmp_t, file, "iox_xml.dat")
files_tmp_filetrans($1, polaris_iox_tmp_t, file, "iox_override.conf")
# /tmp/trace/resource.log can be created by ioxman/vman/caf
# through sourcing in the family of the pvsm_* .sh scripts
files_tmp_filetrans($1, polaris_iox_tmp_t, file, "resource.log")
)

###########################################################
## <summary>
##      Read ioxman temporary files and directories in /tmp.
## Like /tmp/ios_xml.dat and /tmp/iox_override.conf
## </summary>
#
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_iox_read_tmp_files',

gen_require(`
    type polaris_iox_tmp_t;
    
)  
read_files_pattern($1, polaris_iox_tmp_t, polaris_iox_tmp_t)
')

########################################
## <summary>
##      Make the specified domain able to work with iosd2iox files
## </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface(`polaris_iox2iosd_tmp_manage',`
    gen_require(`
        type polaris_iox2iosd_tmp_t;
    
)  
manage_dirs_pattern($1, polaris_iox2iosd_tmp_t, polaris_iox2iosd_tmp_t)
manage_files_pattern($1, polaris_iox2iosd_tmp_t, polaris_iox2iosd_tmp_t)
')

########################################
## <summary>
##      Read ioxman executable file. Used by caf to read iosman
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface(`polaris_ioxman_exec_read',`
    gen_require(`
        type polaris_ioxman_exec_t;
        type bin_t;
        
)  
read_files_pattern($1, bin_t, polaris_ioxman_exec_t)
')

########################################
## <summary>
## Allow the specified domain to get show_version information
## from ioxman executable
## </summary>
## <param name="domain">
##  Domain allowed access.
## </param>
#
interface('polaris_ioxman_show_version',
    gen_require(
        type polaris_ioxman_exec_t;
    ')
    polaris_show_version($1, polaris_ioxman_exec_t)
')

# Allow the specified domain to get show_version information
# from dockerd and other container_runtime_t executables
# </summary>
# <param name="domain">
#  Domain allowed access.
# </param>
#
interface('polaris_container_runtime_show_version',
    gen_require(
        type container_runtime_exec_t;
    ')
    polaris_show_version($1, container_runtime_exec_t)
')

## Execute a domain transition to run cat9k_ssd_auth_cmds.sh
## </summary>
## <param name="domain">
##  Domain allowed to transition.
## </param>
#
interface('polaris_ssd_auth_domtrans',
    gen_require(
        type polaris_ssd_auth_t, polaris_ssd_auth_exec_t;
    ')}
domtrans_pattern($1, polaris_ssd_auth_exec_t, polaris_ssd_auth_t)
')

##########################################################################
## <summary>
## Read ssd files in /tmp/ssd_blk_device
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_read_ssd_tmp_files',
    gen_require(
        type polaris_ssd_auth_tmp_t;
    )
)

read_files_pattern($1, polaris_ssd_auth_tmp_t, polaris_ssd_auth_tmp_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisioxman.if
No license file was found, but licenses were detected in source scan.

# # Nov 2020, Swati Kumaro
# # Copyright (c) 2020 by Cisco Systems, Inc.
# # All rights reserved
#
/dev/blzi_fpga -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)
/dev/blzi_ts_lpps -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)
/dev/blzi_gps_lpps -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)
/dev/blzi_lol_lpps -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)
/dev/blzi_ts_interest_0 -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)
/dev/blzi_ts_interest_1 -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)
/dev/blzi_ts_interest_2 -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)
/dev/blzi_ts_interest_3 -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)
/dev/blzi_ts_interest_4 -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)
/dev/blzi_ts_interest_5 -c gen_context(system_u:object_r:polaris_blzi_device_t:s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisptdpr.fc
No license file was found, but licenses were detected in source scan.
policy_module(polarisezmanage, 1.0);

type polaris_ezmanage_file_t;
files_type(polaris_ezmanage_file_t)
polaris_pfile_type(polaris_ezmanage_file_t)

polaris_process_domain_template(ezmanage)

# Allow ezManage script to be executed by systemd
gen_require(`
    type unconfined_service_t;
`)

polaris_ezmanage_domtrans(unconfined_service_t)

# Allow ezManage file and directory access
polaris_manage_ezmanage_files(polaris_ezmanage_t)

# Allow ezManage socket access
allow polaris_ezmanage_t self:unix_dgram_socket { connected_socket_perms sendto };

# Allow read of /etc/passwd
auth_use_nsswitch(polaris_ezmanage_t)

# ezManage python script needs access to USB ttys for modem AT channel
term_use_usb_ttys(polaris_ezmanage_t)

# ezManage python script needs /usr/bin/python3 execution and may also call other generic system bin utilities
corecmd_exec_bin(polaris_ezmanage_t)

# ezManage needs to access /bootflash/ciscosdwan.cfg and a variably named tar file in /bootflash/modem_firmware
polaris_bootflash_filetrans(polaris_ezmanage_t, polaris_ezmanage_file_t, file, "ciscosdwan.cfg")
polaris_bootflash_filetrans(polaris_ezmanage_t, polaris_ezmanage_file_t, file, "modem_firmware.tar.gz")

# ezManage socket file is created in /var/run
type polaris_ezmanage_var_run_t:
files_pid_file(polaris_ezmanage_var_run_t)
files_pid_filetrans(polaris_ezmanage_t, polaris_ezmanage_var_run_t, sock_file, "cwan_ezmanage_py_server")

# Allow ezManage to access its socket file in /var/run
polaris_manage_ezmanage_var_run_files(polaris_ezmanage_t)
# Allow ezManage to access ngiolite socket file in /var/run
gen_require(
    type polaris_cwan_svr_var_run_t;
')

rw_sock_files_pattern(polaris_ezmanage_t, polaris_cwan_svr_var_run_t, polaris_cwan_svr_var_run_t)

# Allow ezManage to access ngiolite dgram_socket
gen_require(
    type polaris_ngiolite_t;
')

allow polaris_ezmanage_t polaris_ngiolite_t:unix_dgram_socket sendto;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisezmanage.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris dbm Policy Rules.</summary>

########################################################
### <summary>
### Setup /bootflash/.dbpersist directory and content.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_tdldbpersist_setup',`
gen_require(
    type polaris_disk_bootflash_t;
    type polaris_disk_dbm_t;
')
filetrans_pattern($1, polaris_disk_bootflash_t, polaris_disk_dbm_t, dir, ".dbpersist")
# allow creation of /bootflash/.dbpersist directory
manage_dirs_pattern($1, polaris_disk_bootflash_t, polaris_disk_dbm_t)
# dbm can manage files inside of its own polaris_disk_dbm_t directories
manage_files_pattern($1, polaris_disk_dbm_t, polaris_disk_dbm_t)
policy_module(polaristtm, 1.0);

gen_require(
    type polaris_ttm_t;
    ')
polaris_chasfs_read(polaris_ttm_t)
polaris_cpld_read(polaris_ttm_t)

logging_send_syslog_msg(polaris_ttm_t)

# vconfd_load_shared_schemas
polaris_confd_shared_schema_read(polaris_ttm_t)

#/var/run/.ttmd socket and pid
type polaris_ttm_var_run_t;
files_pid_file(polaris_ttm_var_run_t) manage_files_pattern(polaris_ttm_t, polaris_ttm_var_run_t, polaris_ttm_var_run_t) manage_sock_files_pattern(polaris_ttm_t, polaris_ttm_var_run_t, polaris_ttm_var_run_t) files_pid_filetrans(polaris_ttm_t, polaris_ttm_var_run_t, { file sock_file })

# allow /usr/binos/bin/ttmd to access polaris_tdlresolve_t and
#        polaris_global_service_t
polaris_tdlresolve_manage(polaris_ttm_t)
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristtm.te
No license file was found, but licenses were detected in source scan.

# February 2020, Victor Kamensky
#
# Copyright (c) 2020-2021 by Cisco Systems, Inc.
# All rights reserved
#

copyright_module(polarissdaveproxy, 1.0);

gen_require('
    type polaris_sdavc_proxy_t;
')

# btrace_application_start
polaris_chasfs_read(polaris_sdavc_proxy_t)
polaris_tdlresolve_read(polaris_sdavc_proxy_t)
polaris_cpld_read(polaris_sdavc_proxy_t)

# Allow SDAVC exports using UDP socket.
allow polaris_sdavc_proxy_t self:udp_socket create_socket_perms;

# Change namespace to allow network communication with vManage
(process_namespace_network_change_internal - opens /var/run/netns/*)
polaris_cedge_set_ns(polaris_sdavc_proxy_t)

# Reset the namespace back to default (process_namespace_network_default opens /proc/1/ns/net)
polaris_cedge_reset_ns(polaris_sdavc_proxy_t)

type polaris_sdavc_proxy_files_t;
files_type(polaris_sdavc_proxy_files_t)
polaris_pfile_type(polaris_sdavc_proxy_files_t)

# Create /bootflash/sdavc directory, Write, Read & Removed files (For SDAVC imports)
polaris_bootflash_filetrans(polaris_sdavc_proxy_t, polaris_sdavc_proxy_files_t, dir, "sdavc")
polaris_bootflash_filetrans(polaris_iosd_t, polaris_sdavc_proxy_files_t, dir, "sdavc")
polaris_sdavc_proxy_manage(polaris_sdavc_proxy_t)

# IOSd process also should have access to /bootflash/sdavc directory
gen_require('
    type polaris_iosd_t;
')
polaris_sdavc_proxy_manage(polaris_iosd_t)
# Allow SDAVC imports (HTTP GET, PUT) we use /usr/bin/curl executable.
# Exe: curl -f -s --connect-time 10 -o /bootflash/sdvac/.... -w %{http_code} http://<user>:<pw>@<vManage system
# Run CURL in its domain so it wont have all sdavcproxy permissions.

gen_require('  
    type polaris_curl_t;
')
polaris_curl_domtrans(polaris_sdavc_proxy_t)  
corenet_tcp_connect_generic_port(polaris_curl_t)

# cURL process also should have access to /bootflash/sdvac directory  
polaris_sdavc_proxy_manage(polaris_curl_t)

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissdavcproxy.te
No license file was found, but licenses were detected in source scan.

#  
# Sep 2020, Sridhar C  
#  
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved  
#  
/usr/binos/conf/xcopy_script.sh -- gen_context(system_u:object_r:polaris_xcopy_script_exec_t,s0)

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisxcopy.fc
No license file was found, but licenses were detected in source scan.

dnl  
dnl April 2018, Victor Kamensky  
dnl  
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.  
dnl All rights reserved  
dnl  
dnl divert(-1)

include('polaris_process.m4')  
dnl Stub out plaris process  
define('polaris_process','')  

dnl Stub out mqipc  
define('polaris_mqipc_service_server','')  
define('polaris_mqipc_service_client','')  
define('polaris_mqipc_service_server_elastic_client','')
dnl Stub out lipc
define(`polaris_lipc_service_server',``)
define(`polaris_lipc_service_client',``)

include(`polaris_ipc_ripc.m4')
include(`polaris_ipc_base_ripc_te.m4')

dnl Stub out non existent one
define(`polaris_websocket_service_server',``)
define(`polaris_cipc_service_server',``)

include(`polaris_max_scope.m4')

d divert(0) dnl
#
# This is a generated file! Instead of modifying this file,
# modify proper platform TDL file.
#

global_policy_module(autopolarisplatformipcbase, 1.0);
gen_require(``
    attribute port_type;
    attribute defined_port_type;
``)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_base_te.m4
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

global_policy_module(polarisdroputil, 1.0);
polaris_process_domain_template(droputil)
corecmd_exec_bin(polaris_droputil_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_droputil_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_droputil_t)
# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_droputil_t)

# work with /tmp files
type polaris_droputil_tmp_t;
files_tmp_file(polaris_droputil_tmp_t)
manage_dirs_pattern(polaris_droputil_t, tmp_t, polaris_droputil_tmp_t)
manage_files_pattern(polaris_droputil_t, polaris_droputil_tmp_t, polaris_droputil_tmp_t)
manage_fifo_files_pattern(polaris_droputil_t, polaris_droputil_tmp_t, polaris_droputil_tmp_t)
manage_lnk_files_pattern(polaris_droputil_t, polaris_droputil_tmp_t, polaris_droputil_tmp_t)
files_tmp_filetrans(polaris_droputil_t, polaris_droputil_tmp_t, { file dir })

# on some platform /tmp/rp/dropbox is created by binos service
# that runs under initrc_t
ge_require('"
    type initrc_t;
"
')
files_tmp_filetrans(initrc_t, polaris_droputil_tmp_t, dir, "dropbox")

allow polaris_droputil_t self:capability { sys_resource dac_override };
allow polaris_droputil_t self:process setpgid;

polaris_btrace_data_manage(polaris_droputil_t)
polaris_cpld_read(polaris_droputil_t)
polaris_chasfs_manage(polaris_droputil_t)
polaris_boot_tmp_read(polaris_droputil_t)
polaris_read_debug_conf(polaris_droputil_t)
polaris_disk_crashinfo_getattr(polaris_droputil_t)
polaris_rmonbifo_tmp_read(polaris_droputil_t)

# runs systemctl start reflector.service
systemd_exec_systemctl(polaris_droputil_t)

# PLEASE LOOK AT ME need to have separate label for reflector.service
# allow only to start if, do it once copy of reflector.service is fixed
systemd_config_generic_services(polaris_droputil_t)

# droputil.sh deletes /tmp/rp/droputil/so-del-stage/rp/0
fs_getattr_tmpfs(polaris_droputil_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdroputil.te

No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
policy_module(polarisofa, 1.0);

gen_require('  
    type polaris_ofa_t;
')

polaris_btrace_data_manage(polaris_ofa_t)
polaris_crft_data_manage(polaris_ofa_t)
polaris_chasfs_manage(polaris_ofa_t)
polaris_tdlresolve_read(polaris_ofa_t)
polaris_tdldb_list_dirs(polaris_ofa_t)
polaris_cpld_read(polaris_ofa_t)
polaris_flashlib_read(polaris_ofa_t)

allow polaris_ofa_t self:capability sys_admin;

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisofa.te

No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#
#
# /bootflash labels
/bootflash(/.*)?    gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)
/bootflash/ssh(/.*)? gen_context(system_u:object_r:ssh_home_t,s0)
/bootflash/ssh/ssh_host.*_key\.pub    gen_context(system_u:object_r:sshd_key_t,s0)
/bootflash/ssh/ssh_host.*_key        gen_context(system_u:object_r:sshd_key_t,s0)
/bootflash/tracelogs(/.*)?    gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/bootflash/tan(/.*)?    gen_context(system_u:object_r:polaris_btrace_data_t,s0)
/bootflash/core(/.*)?    gen_context(system_u:object_r:polaris_core_file_t,s0)
/bootflash/debug.conf    gen_context(system_u:object_r:polaris_debug_conf_t,s0)
/bootflash/packages.conf    gen_context(system_u:object_r:polaris_packages_conf_t,s0)

# /objstore
/objstore(/.*)?    gen_context(system_u:object_r:polaris_disk_objstore_t,s0)
/dev/shm/sem/objstore_sem    gen_context(system_u:object_r:polaris_objstore_sem_t,s0)

# hanet driver used by vpcgw platform of VXE family
ifdef(`vpcgw_platform',`
/dev/hanet -c gen_context(system_u:object_r:polaris_hanet_device_t,s0)
')

# /csl_p_0
/csl_p_0(/.*)? gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)

# /csl_p_1.context
/csl_p_1(/.*)? gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)

# /csl_s_0.context
/csl_s_0(/.*)? gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)

# /csl_s_1.context
/csl_s_1(/.*)? gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)

# /varied
/varied(/.*)? gen_context(system_u:object_r:polaris_disk_varied_t,s0)
/varied/install_info gen_context(system_u:object_r:polaris_vxeinstall_info_t,s0)
/varied/obfl_/.* gen_context(system_u:object_r:polaris_obfl_data_t,s0)
/varied/grub_cisco_version gen_context(system_u:object_r:polaris_grubver_t,s0)
/varied/grub(/.*)? gen_context(system_u:object_r:boot_t,s0)
/varied/grub2(/.*)? gen_context(system_u:object_r:polaris_grub_bios_t,s0)
/varied/vcpu_template.txt gen_context(system_u:object_r:polaris_iosd_vcpu_t,s0)
/sbin/grub* gen_context(system_u:object_r:bootloader_exec_t,s0)

# /grubenv
/bootefi(/.*)? gen_context(system_u:object_r:polaris_grub_efi_t,s0)

# from /lib/tmpfiles.d/binos-vxe.conf
/lic0 -l gen_context(system_u:object_r:polaris_disk_csl_p_t,s0)
/lic1 -l gen_context(system_u:object_r:polaris_disk_csl_s_t,s0)

# umbrella_ini.sh executable label
/usr/binos/conf/umbrella_init.sh -- gen_context(system_u:object_r:polaris_umbrella_init_exec_t,s0)

# On ultra_us /cpld_util.sh creates /tmp/chassis. Put this script into the initexec_t domain so
# chasfs transitions properly.
#
/cpld_util.sh gen_context(system_u:object_r:initrc_exec_t,s0)

# /config labels
/config(/.*)? gen_context(system_u:object_r:polaris_disk_config_t,s0)
/config/ssh(/.*)? gen_context(system_u:object_r:ssh_home_t,s0)
/config/ssh/ssh_host.*_key.pub gen_context(system_u:object_r:sshd_key_t,s0)
/config/ssh/ssh_host.*_key gen_context(system_u:object_r:sshd_key_t,s0)
policy_module(polarisboot, 1.0);

____________________________________________________________________
# /tmp/sw/boot policy
____________________________________________________________________
type polaris_boot_tmp_t;
files_tmp_file(polaris_boot_tmp_t)
gen_require(
  attribute domain;
)
files_tmp_filetrans(domain, polaris_boot_tmp_t, dir, "boot")
# /tmp/sw/isos
files_tmp_filetrans(domain, polaris_boot_tmp_t, dir, "isos")

# dmesg command is executed in its own domain and result is store
# into /tmp/sw/boot/dmesg file
gen_require(
  type dmesg_t;
)
polaris_boot_tmp_write(dmesg_t)

# /tmp/reload_reason copied from /bootflash/prst_sync/reload_info
files_tmp_filetrans(domain, polaris_boot_tmp_t, file, "reload_reason")

# /tmp/bootup_timestamp created by /etc/init.d/binos
gen_require(
  type initrc_t;
  type init_t;
)
files_tmp_filetrans({ initrc_t init_t }, polaris_boot_tmp_t, file, "bootup_timestamp")

type polaris_boot_file_t;
files_type(polaris_boot_file_t)
polaris_pfile_type(polaris_boot_file_t)
gen_require(
  type polaris_disk_bootflash_t;
)
filetrans_pattern(domain, polaris_disk_bootflash_t, polaris_boot_file_t, file, "reload_info")

filetrans_pattern(domain, polaris_disk_bootflash_t, polaris_boot_file_t, file, "stack_reload_info")

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisboot.te

No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscfgmgr.fc
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscxp.fc
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmportsfetch.fc
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisftm.fc
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdbgd.fc
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfpm.fc
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisvdaemon.fc
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissttm.fc
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisomp.fc
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisinstallmgr.fc

No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris Common Policy Rules.</summary>

******************************************************************************
# Polaris common
******************************************************************************

******************************************************************************
### <summary>
### Create a domain for long running Polaris processes in
### confined mode.
### </summary>
### <param name="domain">
### Domain allowed access.
## <summary>
## Create a domain for long running Polaris processes. Note depending on policy build setting it could be confined or not confined
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <param name="entry_point">
## Type of the program to be used as an entry point to this domain.
interface(`polaris_process_domain', `)

# the default is to confine all domains
polaris_process_domain_confined($1, $2)

#
# if the domain is in the permissive map, then set it to be confined
# permissive. if the domain is in the confined map, then there really
# isn't much else to do but leave it confined. if the domain isn't in
# the permissive or confined maps then determine if the domain should
# be unconfined.
#
# ifelse(permissive_domain($1), $1, `polaris_permissive_domain_setup($1)',
  confined_domain($1), $1, `',
  `polaris_domain_maybe_unconfined($1)')
')

#######################################
### <summary>
### Create a domain for utility Polaris processes in
### confined mode.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="entry_point">
### Type of the program to be used as an entry point to this domain.
### </summary>
### </param>
#
interface(`polaris_utility_domain_confined', `)
domain_type($1)
domain_entry_file($1, $2)
  role system_r types $1;
  gen_require(
    attribute polaris_domain;
    attribute polaris_exec_domain;
    attribute polaris_extended_domain;
  )
  typeattribute $1 polaris_domain, polaris_extended_domain;
typeattribute $2 polaris_exec_domain;
# allow all process to check whether kernel ksm is enabled
polaris_ksm_run_check($1)
')

# <summary>
# Create a domain for utility Polaris processes. Note
# depending on policy build setting it could be confined or
# not confined
# </summary>
# <param name="domain">
# Domain allowed access.
# </param>
###
# if the domain is in the permissive map, then set it to be confined
# permissive. if the domain is in the confined map, then there really
# isnt much else to do but leave it confined. if the domain isnt in
# the permissive or confined maps then determine if the domain should
# be unconfined.
#
# ifelse(permissive_domain($1), $1, `polaris_permissive_domain_setup($1)',
# confined_domain($1), $1, "",
# `polaris_domain_maybe_unconfined($1)')
')

###<summary>
# Creates types and rules for a basic
# polaris process domain.
###</summary>
### <param name="stem">
# Stem for the domain. Name is constructed as polaris_stem_t
###</param>
# <summary>
## Creates types and rules for a basic polaris process domain.
### <param name="stem">
## Stem for the domain. Name is constructed as polaris_stem_t
### </param>

# template('polaris_process_domain_template',
    type polaris_$1_t;
    type polaris_$1_exec_t;

    polaris_process_domain(polaris_$1_t, polaris_$1_exec_t)
    ifdef(polaris_permissive,`
        permissive polaris_$1_t;
    `)
)
	polaris_btrace_data_client_template($1)
	polaris_maroon_data_client_template($1)
	polaris_crft_data_client_template($1)
	polaris_process_proc_kpageflags_template($1)
	polaris_process_uswap_access(polaris_$1_t, $1, "$1")
`)

#template('polaris_utility_domain_template',
    type polaris_$1_t;
    type polaris_$1_exec_t;

    polaris_utility_domain(polaris_$1_t, polaris_$1_exec_t)
    ifdef(polaris_permissive,`
        permissive polaris_$1_t;
    `)
)
	polaris_btrace_data_client_template($1)
	polaris_maroon_data_client_template($1)
	polaris_crft_data_client_template($1)
	polaris_process_proc_kpageflags_template($1)

`)

# Allow the specified domain to execute polaris domain
## process in the caller domain.
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_exec',`
    gen_require(
        attribute polaris_exec_domain;
    ')
    can_exec($1, polaris_exec_domain)
')

######################################
## <summary>
## Allow the specified domain to read polaris domain executable file. I.e to get information from executables like binary trace info, trace key etc
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_read_exec_domain',`
    gen_require(
        attribute polaris_exec_domain;
        type bin_t;
    ')
    read_files_pattern($1, bin_t, polaris_exec_domain)
')

######################################
## <summary>
## Allow the specified domain to receive signals from any polaris process.
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_receive_signal_from_domain',
    gen_require(
        attribute polaris_domain;
    )
)

allow polaris_domain $1:process signal_perms;
)

########################################################################
## <summary>
## Systemd-tmpfiles utility creates an object
## in the tmp directories, with a private type using a type
## transition.
## Note rules to create files and directories which are
## performed by systemd-tmpfiles reside in /lib/tmpfiles.d/
## directory. And polaris specific rules are in binos.conf file.
## Note systemd-tmpfiles utility would use label from file_contexts
## to restore proper label. I.e the same effect could be achived by
## placing proper .fc expression.
## </summary>
## <param name="private type">
## <summary>
## The type of the object to be created.
## </summary>
## </param>
## <param name="object">
## <summary>
## The object class of the object being created.
## </summary>
## </param>
## <param name="name">
## <summary>
## The name of the object being created.
## </summary>
## </param>
#
interface('polaris_systemd_tmpfiles_tmp_filetrans',
    gen_require(
        type systemd_tmpfiles_t;
    )
    files_tmp_filetrans(systemd_tmpfiles_t, $1, $2, $3)
)

########################################################################
## socketat through get_netns_fd function call access
## /proc/pid/ns/net file
##
## Implementation notes:

wants to read /proc/pid/ns/net but gets denial because our 3.10 kernel does not support nsfs yet, so /proc/pid/ns/net is marked as proc_t instead of be nsfs_t. For now allow read access to proc_t through kernel_system_state_reader attribute. Try to drop it in latter kernels

in 4.4 /proc/pid/ns/net inode is under nsfs_t, polaris_smd_t needs to open, getattr, and read from it

## <summary>

<param name="domain">

Domain allowed access.

</param>

interface(polaris_socketat_nsfs_read,`

kernel_read_system_state($1)
fs_read_nsfs_files($1)
gen_require(`

  type ifconfig_var_run_t;
')
list_dirs_pattern($1, ifconfig_var_run_t, ifconfig_var_run_t)
')

-------------------------------------

## <summary>

All namespace related operation to switch name space is covered under this macro.

</summary>

<param name="domain">

Domain allowed access.

</param>

interface(polaris_namespace_set_netns_with_etc,`

files_mounton_isid($1)
files_mounton_rootfs($1)
dev_mount_sysfs_fs($1)
devUnmount_sysfs_fs($1)
sysnet_read_config($1)
sysnet_write_config($1)
sysnet_manage_config_dirs($1)
files_rw_etc_files($1)
allow $1 net_conf_t:file mounton;
allow $1 etc_t:file mounton;
allow $1 self:capability sys_chroot;
')

###############################################################################
## <summary>
##    process can execute libeiutil build_config_directory function
##
## Implementation notes:
##    build_config_directory function from mgmt/libeiutil/src/eiutil.c
##    calls glibc nftw function, which effectively walks whole file tree
##    and execute given call back. While function is executed it needs
##    access to all files and directories attributes also it wants to
##    search all directories. But we will not grant search access to
##    security_file_type, instead we will dontaudit those. Anyway no
##    relevant config file should be under security_file_type directory.
##</summary>
## <param name="domain">
##    Domain allowed access.
##</param>
#
# interface('polaris_libeiutil_build_config_directory',
#    files_getattr_all_files($1)
#    files_getattr_all_dirs($1)
#    files_read_all_symlinks($1)
#
#    files_list_non_security($1)
#    files_dontaudit_list_security_dirs($1)
')

###############################################################################
## <summary>
##    Allow the specified domain to read write from i2c device.
##</summary>
## <param name="domain">
##    Domain allowed access.
##</param>
#
# interface('polaris_i2c_use',
#    gen_require(
#        type device_t;
#        type polaris_i2c_device_t;
#
#        type polaris_i2c_device_t;
#    )
#)
rw_chr_files_pattern($1, device_t, polaris_i2c_device_t)
')

###############################
## <summary>
## Work (read, write, ioctl) with /dev/remap_mem0
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
# interface('polaris_remap_mem_dev_use',
  gen_require(
    type device_t;
    type polaris_remap_mem_device_t;
  )
  write_chr_files_pattern($1, device_t, polaris_remap_mem_device_t)
  read_chr_files_pattern($1, device_t, polaris_remap_mem_device_t)
  allow $1 polaris_remap_mem_device_t:chr_file map;
')

###############################
## <summary>
## Allow the specified domain to read firmware files
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
# interface('polaris_firmware_read',
  gen_require(
    type polaris_firmware_t;
  )
  read_files_pattern($1, polaris_firmware_t, polaris_firmware_t)
  # /firmware/* are link files, allow to follow symbolic link
  allow $1 polaris_firmware_t:lnk_file read;
  allow $1 polaris_firmware_t:dir read;
')

###############################
## <summary>
## Allow the specified domain to manage firmware files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_firmware_manage',
          gen_require(
              type polaris_firmware_t;
          ')

manage_files_pattern($1, polaris_firmware_t, polaris_firmware_t)
manage_lnk_files_pattern($1, polaris_firmware_t, polaris_firmware_t)
manage_dirs_pattern($1, polaris_firmware_t, polaris_firmware_t)
')

#################################################################
## <summary>
##      Allow the specified domain to getattr of firmware files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_firmware_getattr',
          gen_require(
              type polaris_firmware_t;
          ')

ggetattr_files_pattern($1, polaris_firmware_t, polaris_firmware_t)
')

#################################################################
## <summary>
##      Allow the specified domain to map of firmware files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_firmware_map',
          gen_require(
              type polaris_firmware_t;
          ')
read_files_pattern($1, polaris_firmware_t, polaris_firmware_t)
   allow $1 polaris_firmware_t:file map;
)

######################################
## <summary>
##      Allow the specified domain to write relocations into text segment, deals
## with icc broken relocations.
##
## LOOK AT ME:
## Basically it deals with denials like this:
## type=AVC msg=audit(1475815369.598:3): avc: denied { execmod } for pid=4929 comm="cman_fp"
path="/tmp/sw/mount/csr1000v-mono-universalk9.2016-10-06_20.15_kamensky.SSA.pkg/usr/cpp/lib64/libcpp_client_ha_oor.so" dev="loop0" ino=7683
scontext=system_u:system_r:unconfined_service_t:s0 tcontext=system_u:object_r:lib_t:s0 tclass=file
## It happens because icc generates code with relocations in text segment and
## run-time linker is dealing with it by doing mprotect(WRITE), relocations,
## mprotect(NO WRITE). Remove once icc compiled is fixed
##
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_icc_broken_relocations',
   gen_require(
      type lib_t;
   )
   allow $1 lib_t:file execmod;
)

######################################
## <summary>
##      Allow the specified domain to work with /dev/mem
##
## LOOK AT ME!!! LOOK AT ME!!! Missing driver: application works
## with /dev/mem directly
##
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_dev_mem_use',
        dev_read_raw_memory($1)
        dev_write_raw_memory($1)
        allow $1 self:capability sys_rawio;
        gen_require(
            type memory_device_t;
        )
        allow $1 memory_device_t:chr_file map;
    )

########################################################################
## <summary>
##      Append to /tmp/etc file. First usage to update  xinetd.conf
## files.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_etc_append',
        gen_require(
            type polaris_etc_t;
        )
        append_files_pattern($1, polaris_etc_t, polaris_etc_t)
    )

########################################################################
## <summary>
##      Search /tmp/etc directory
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_etc_search',
        gen_require(
            type polaris_etc_t;
        )
        search_dirs_pattern($1, polaris_etc_t, polaris_etc_t)
    )

########################################################################
##<summary>
##List the contents of /etc directories.
###
## <summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_etc_list',``
gen_require(`
type polaris_etc_t;
``)

allow $1 polaris_etc_t:dir list_dir_perms;
``

########################################
## <summary>
## Allow domain to attach to TUN devices created by ifconfig_t subject.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('ifconfig_attach_tun_iface',``
gen_require(`
type ifconfig_t;
``)

allow $1 ifconfig_t:tun_socket relabelfrom;
allow $1 self:tun_socket relabelto;
``

#######################################
## <summary>
## Perms used by pidof
## binos/infra/systemd/scripts/errmsg.sh, might needs /dev/ttyS0
## access.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolebase/>
#
interface('pidof_use',``
# FIXME or fix labeling
# /sys/devices/system/cpu/online should be labeled cpu_online_t
# but for some reason this did not happen, grant perms for both
dev_read_sysfs($1)
dev_read_cpu_online($1)
# /proc scan
domain_read_all_domains_state($1)
kernlist_proc($1)
')

###################################################################
## <summary>
## Script can execute errmsg function from
## binos/infra/systemd/scripts/errmsg.sh, might needs /dev/ttyS0
## access.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolebase/>
#
interface(`polaris_script_errmsg_use',`
# send to syslog (journal), iosd outputs to console if up
logging_send_syslog_msg($1)
# check if iosd is up and find its pid and if ttyS0 is opened
pidof_use($1)
# if FDs dont have ttyS0 it sends to console itself
term_use_unallocated_ttys($1)
')

###################################################################
## <summary>
## Allow the specified domain to read ebf (explicit
## bindind) files
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_ebf_map',`
gen_require(`
type polaris_ebf_t;
')
read_files_pattern($1, polaris_ebf_t, polaris_ebf_t)
allow $1 polaris_ebf_t:file map;
')

######################################
## <summary>
##      Allow the specified domain to execute show_version command
## for given executable label
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <param name="subject_exec">
##      <summary>
##      Domain of executable that version can be checked
##      </summary>
## </param>
#
interface('polaris_show_version',
    read_files_pattern($1, $2, $2)
    allow $1 $2:file map;
')

#######################################
## <summary>
##     Configure the polaris domain as permissive
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <rolebase/>
#
interface('polaris_permissive_domain_setup',
    gen_require(
        type $1;
    )
    permissive $1;
')

####################################
## <summary>
## Creates types and rules for process access to uswap feature.
## Ability to create file/folder under /bootflash/USWAP/"FRU", and
## map file.
## </summary>

## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>

## <param name="stem">
## <summary>
## Stem for the object label. Name is constructed as
## polaris_"stem"_uswap_files_t. It should be the short
## form of the process name.
## E.g., for IOSd polaris_iosd_uswap_files_t.
## </summary>
## </param>

## <param name="name">
## <summary>
## The name of the object being created.
## Name of the folder created by the process for
## creating the uswap files.
## </summary>
## </param>

# template('polaris_process_uswap_access',`
gen_require('type polaris_uswap_files_t;
')
type polaris_$2_uswap_files_t;
files_type(polaris_$2_uswap_files_t)
polaris_pfile_type(polaris_$2_uswap_files_t)

filetrans_pattern($1, polaris_uswap_files_t, polaris_$2_uswap_files_t, {file dir})
manage_dirs_pattern($1, polaris_$2_uswap_files_t, polaris_$2_uswap_files_t)
manage_files_pattern($1, polaris_$2_uswap_files_t, polaris_$2_uswap_files_t)
manage_lnk_files_pattern($1, polaris_$2_uswap_files_t, polaris_$2_uswap_files_t)
allow $1 polaris_$2_uswap_files_t:file map;

# allow access to pvp to clean-up the process related uswap file/folder
gen_require('type polaris_pvp_t;
')
allow polaris_pvp_t polaris_$2_uswap_files_t:dir { read remove_name rmdir write };
allow polaris_pvp_t polaris_$2_uswap_files_t:file unlink;
')
### <summary>
## Allow process access to to access page related files such as "/proc/kpageflags"
### </summary>
### <param name="stem">
### <summary>
## Stem for the domain. Name is contructred as polaris_stem_t
### </summary>
### </param>
#
Template(`polaris_process_proc_kpageflags_template',
   gen_require(
   type proc_t;
   )
   allow polaris_$1_t proc_t:file { open read };
   )

### <summary>
## transition context of fman(rp/fp) created iptbl tmp files related to acl mgmt.
### </summary>
### <param name="domain">
### <summary>
## Domain allowed access.
### </summary>
### </param>
#
Interface(`polaris_fman_acl_iptbl_tmp_file',
   gen_require(
   type polaris_iptbl_tmp_t;
   )
   files_tmp_filetrans($1, polaris_iptbl_tmp_t, file, "iptbl.v4")
   files_tmp_filetrans($1, polaris_iptbl_tmp_t, file, "iptbl.v6")
   manage_files_pattern($1, polaris_iptbl_tmp_t, polaris_iptbl_tmp_t)
   )

### <summary>
## Manage files/folders in /tmp/rsync_log_dir.
### </summary>
### <param name="domain">
### <summary>
## Domain allowed access.
### </summary>
### </param>
#
interface('polaris_manage_rsync_tmplog_dir',`
    gen_require(
        type polaris_rsync_tmp_t;
    )
    manage_files_pattern($1, polaris_rsync_tmp_t, polaris_rsync_tmp_t)
    manage_dirs_pattern($1, polaris_rsync_tmp_t, polaris_rsync_tmp_t)
')

#######################################
## <summary>
##      Manage cerr shared memory /dev/shm/cerrno_dll.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_cerr_shm_manage',`
    gen_require(
        type tmpfs_t;
        type polaris_cerr_shm_t;
    )
    fs_getattr_tmpfs($1)
    manage_files_pattern($1, tmpfs_t, polaris_cerr_shm_t)
    allow $1 polaris_cerr_shm_t:file map;
    fs_tmpfs_filetrans($1, polaris_cerr_shm_t, file, "cerrno_dll")
')

#######################################
## <summary>
##      Manage shared memory for vrf - /dev/shm/vrf_shm.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_vrf_shm_manage',`
    gen_require(
        type tmpfs_t;
        type polaris_vrf_shm_t;
    )
    fs_getattr_tmpfs($1)
    manage_files_pattern($1, tmpfs_t, polaris_vrf_shm_t)
    allow $1 polaris_vrf_shm_t:file map;
    filetrans_pattern($1, tmpfs_t, polaris_vrf_shm_t, file, "vrf_shm")
interface('polaris_vrf_netns_manage',
    polaris_vrf_shm_manage($1)
)

kernel_rw_net_sysctls($1)
polaris_lfts_dev_use($1)

sysnet_exec_ifconfig($1)
sysnet_manage_ifconfig_run($1)
gen_require(
    type ifconfig_var_run_t;
    )
allow $1 ifconfig_var_run_t:file { create mounton open read }; allow $1 ifconfig_var_run_t:dir mounton;

gen_require(
    type polaris_ip_linux_port_var_t;
    )
read_files_pattern($1, var_t, polaris_ip_linux_port_var_t)
getattr_files_pattern($1, var_t, polaris_ip_linux_port_var_t)
)

### <summary>
### Allow read/write of network state directory files
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface('polaris_kernel_rw_network_state_files',
    gen_require(
        type proc_net_t;
        )
)
### Allow the specified domain to send signals to Binos shell

```c
allow $1 polaris_shell_t:process signal_perms;
```

#### Execute curl in the curl domain.

```c
corecmd_search_bin($1)
domtrans_pattern($1, polaris_curl_exec_t, polaris_curl_t)
```

#### Manage files and directories in /tmp directory with rsync_tmp_t

```c
corecmd_search_bin($1)
domtrans_pattern($1, polaris_curl_exec_t, polaris_curl_t)
```
### Domain allowed access.

#### </summary>
#### </param>

```
interface('rsync_tmp_manage',
    gen_require('       type rsync_tmp_t;
    ')
    manage_dirs_pattern($1, rsync_tmp_t, rsync_tmp_t)
    manage_files_pattern($1, rsync_tmp_t, rsync_tmp_t)
    manage_lnk_files_pattern($1, rsync_tmp_t, rsync_tmp_t)
    manage_fifo_files_pattern($1, rsync_tmp_t, rsync_tmp_t)
')
```
write_files_pattern($1, polaris_sysfs_ggpio_t, polaris_sysfs_ggpio_t)
')

#######################################
##    Manage files under /bootflash/certs, cert files for AP
##    <summary>
##    Domain allowed access.
##    <summary>
##    </param>
#
#    interface('polaris_wlc_ap_cert_manage',
#        gen_require(
#            type polaris_ap_cert_file_t;
#        )

manage_files_pattern($1, polaris_ap_cert_file_t, polaris_ap_cert_file_t)
manage_dirs_pattern($1, polaris_ap_cert_file_t, polaris_ap_cert_file_t)

')

#######################################
##    Manage SERDES key directory and files
##    SERDES library stores info in /tmp/serdes_asic_key_dir/*
##    <summary>
##    Domain allowed access.
##    <summary>
##    </param>
#
#    interface('polaris_serdes_asic_key_tmp_manage',
#        gen_require(
#            type polaris_serdes_asic_key_tmp_t;
#        )

files_tmp_filetrans($1, polaris_serdes_asic_key_tmp_t, {dir file}, "serdes_asic_key_dir")
manage_dirs_pattern($1, {tmp_t polaris_serdes_asic_key_tmp_t}, polaris_serdes_asic_key_tmp_t)
manage_files_pattern($1, polaris_serdes_asic_key_tmp_t, polaris_serdes_asic_key_tmp_t)

')

#######################################
##    Manage polaris_tech_support_tmp_t in /tmp
interface('polaris_tech_support_tmp_read',
    gen_require(
        type polaris_tech_support_tmp_t;

    )
read_files_pattern($1, polaris_tech_support_tmp_t, polaris_tech_support_tmp_t)
)

interface('polaris_proc_fd_all_getattr',
    domain_read_allDomains_state($1)
    files_getattr_all_files($1)
    files_getattr_all_dirs($1)
    files_getattr_all_sockets($1)
    files_getattr_all_pipes($1)
    files_getattr_all_chr_files($1)
    files_getattr_all_symlinks($1)
    files_read_all_dirs_except($1)
    dev_getattr_all_chr_files($1)
    dev_getattr_all_blk_files($1)
    dev_getattr_mtrr_dev($1)
    gen_require('attribute domain;
');
allow $1 domain:[socket socket_class_set fifo_file] getattr;
# access sysctl_rpc_t
kernel_read_rpc_sysctls($1)
)
### <summary>
### Manage files and directories sysfs. This should only be used
### if the interface needs sysfs_t create access. Otherwise please use
### dev_rw_sysfs
### </summary>
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
### <rolebase/>
#
# interface('polaris_sysfs_manage',
    gen_require(
        type sysfs_t;
    )
    manage_files_pattern($1, sysfs_t, sysfs_t)
')

### <summary>
### Check access to the init/systemd executable.
### </summary>
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
#
# interface('polaris_init_access_check',
    gen_require(
        type init_exec_t;
    )
    init_access_check($1)
    allow $1 init_exec_t:file {open read};
    allow $1 init_exec_t:lnk_file read_lnk_file_perms;
')

### <summary>
### Manage polaris_manage_rommon_info in /tmp.
### </summary>
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
interface('polaris_manage_rommon_info',
    gen_require(
        type polaris_rommon_info_tmp_t;
    )
    manage_files_pattern($1, polaris_rommon_info_tmp_t, polaris_rommon_info_tmp_t)
)

interface('polaris_tamlib_dbg_file_manage',
    gen_require(
        type polaris_tamlib_dbg_file_t;
    )
    filetrans_pattern($1, polaris_disk_bootflash_t, polaris_tamlib_dbg_file_t, file, "tamlib_dbg_log")
    manage_files_pattern($1, polaris_tamlib_dbg_file_t, polaris_tamlib_dbg_file_t)
)

interface('polaris_ddr_dev_use',
    gen_require(
        type device_t;
        type polaris_ddr_device_t;
    )
    write_chr_files_pattern($1, device_t, polaris_ddr_device_t)
    read_chr_files_pattern($1, device_t, polaris_ddr_device_t)
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscommon.if
No license file was found, but licenses were detected in source scan.

# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris tams_rp Policy Rules.</summary>

ttl "allow polaris_tams_rp_t unix stream socket connect"

### <summary>Allow polaris_tams_rp_t unix stream socket connect</summary>

### <param name="domain">
  ### <summary>Domain allowed access.</summary>
  ### </summary>

interface(`polaris_tams_rp_socket_connect',
                      gen_require(`
                      type polaris_tams_rp_t;
                      ')allow $1 polaris_tams_rp_t:unix_stream_socket connectto;
                      

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristamsrp.if

No license file was found, but licenses were detected in source scan.

# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polariswncd file contexts place holder

/mnt/images(/.*)? gen_context(system_u:object_r:polaris_wlc_ap_images_t:s0)

Found in path(s):
* /opt/cola/permissions/1103963160_1615183271.1/0/selinux-tar/selinux/polariswncd.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

# /harddisk /harddisk -> /misc/scratch
/harddisk gen_context(system_u:object_r:polaris_disk_harddisk_t,s0)
/misc/scratch gen_context(system_u:object_r:polaris_disk_bootflash_t,s0)

/usb0 gen_context(system_u:object_r:removable_t,s0)
/usb1 gen_context(system_u:object_r:removable_t,s0)
/misc/usb0 gen_context(system_u:object_r:removable_t,s0)
/misc/usb1 gen_context(system_u:object_r:removable_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisstorage.fc
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

/tmp/tam_cfg_done(/.*)? gen_context(system_u:object_r:polaris_tam_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisesgtamcfg.fc
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris omp Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisomp.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris TDLDB Policy Rules.</summary>

# Polaris tdlb (infra/tdllib)

### Make specified domain as one of tdlb types.
### <param name="domain" value="polaris_tdldb_type">
### The domain serving as polaris_tdldb type
### </param>
#
interface('polaris_tdldb_type', `polaris_tdldb`
    gen_require(
        attribute polaris_tdldb;
    )
    typeattribute $1 polaris_tdldb;
files_type($1)
')

### List directories in /tmp/[rp|fp|cc]/tdldb directories.
### <param name="domain" value="polaris_tdldb_list_dirs">
### Domain allowed access.
### </param>
#
interface('polaris_tdldb_list_dirs', `polaris_tdldb_t`
    gen_require(
        type polaris_tdldb_t;
    )
    list_dirs_pattern($1, polaris_tdldb_t, polaris_tdldb_t)
')

### Use tdlb database files in /tmp/[rp|fp|cc]/tdldb
## <summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <param name="database_label">
##      <summary>
##      Database file label.
##      </summary>
## </param>
## <param name="object">
##      <summary>
##      Database file name. Also used to derive lock file name.
##      </summary>
## </param>
#
# interface( `polaris_tdldb_use',`
# gen_require(`
# type polaris_tdldb_t;
#     type tmp_t;
# ')
# manage_dirs_pattern($1, polaris_tdldb_t, polaris_tdldb_t)
# manage_files_pattern($1, polaris_tdldb_t, $2)
# allow $1 $2:file map;
# allow $1 polaris_tdldb_t:file lock;
# type_transition $1 polaris_tdldb_t : file $2 "$3";
# type_transition $1 polaris_tdldb_t : file $2 "$3.lock";
#
# # manage /var/tmp/tdldb_ene_fifo.0xYYYYY files - it seems there is
# # no way to assign separate label to them
# manage_fifo_files_pattern($1, tmp_t, tmp_t)
#
# # tdllib_database_handle_open_internal through libuuid calls
# # uuid_generate_time_generic, which needs access to udp socket
# # once it reaches get_node_id function
# allow $1 self:udp_socket { create ioctl };
# ')
#
# ####################################################################################
## <summary>
## Setup tdldb database persistent files in
##     /tmp/rp[fp]lcc/tdldb/persist-config
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
<summary>
Database file label.
</summary>
</param>

<param name="object">
<summary>
Database file name. Also used to derive lock file name.
</summary>
</param>

interface(`polaris_tmp_tdldb_persist_setup',
  gen_require(`
    type polaris_tdldb_t;
    type polaris_tdldb.persist_t;
  `)
  filetrans_pattern($1, polaris_tdldb_t, polaris_tdldb.persist_t, dir, "persistent-config")
  # allow creation of /tmp/rp/tdldb/persistent-config
  manage_dirs_pattern($1, polaris_tdldb_t, polaris_tdldb.persist_t)
  # Manage files inside of its own polaris_tdldb.persist_t directories
  manage_files_pattern($1, polaris_tdldb.persist_t, polaris_tdldb.persist_t)
)

interface(`polaris_tdldb_manage_dirs',
  gen_require(`
    type polaris_tdldb_t;
  `)
  manage_dirs_pattern($1, polaris_tdldb_t, polaris_tdldb_t)
)

interface(`polaris_tdldb_use_db',
  gen_require(`
    type polaris_dir_db_tdldb_t;
  `)
  use_db_pattern($1, polaris_dir_db_tdldb_t, polaris_dir_db_tdldb_t)
)}
## <summary>
## </param>
## <infoflow type="none"/>
#
interface('polaris_db_tlldb_dir_use);
  gen_require(
    type polaris_dir_db_tlldb_t;
  )

  polaris_tlldb_use($1, polaris_dir_db_tlldb_t, DB_DIR)
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristldldb.if
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariswncd, 1.0);

  gen_require(
    type polaris_wncd_t;
  )

  polaris_btrace_data_manage(polaris_wncd_t)
polaris_crft_data_manage(polaris_wncd_t)
polaris_chasfs_manage(polaris_wncd_t)
polaris_tdlresolve_read(polaris_wncd_t)
polaris_tlldb_list_dirs(polaris_wncd_t)
polaris_cpld_read(polaris_wncd_t)
polaris_lua_read(polaris_wncd_t)
polaris_flashlib_read(polaris_wncd_t)
polaris_ripc_sman_ui_serv_connect(polaris_wncd_t)
polaris_db_tlldb_dir_use(polaris_wncd_t)

#wncd need setrlimit to change limit of resource
allow polaris_wncd_t self:process setrlimit;
allow polaris_wncd_t self:capability sys_resource;

#allow tcp connection from http port
allow polaris_wncd_t self:capability net_bind_service;
corenet_tcp_bind_http_port(polaris_wncd_t)

#allow udp for dhcpd
corentr_udp_bind_dhcpd_socket(polaris_wncd_t)
corentr_udp_bind_generic_node(polaris_wncd_t)
allow polaris_wncd_t self:udp_socket { create_socket_perms recv_msg send_msg }

#allow AF_PACKET
allow polaris_wncd_t self:capability net_raw;
allow polaris_wncd_t self:packet_socket { create_socket_perms recv_msg send_msg }

# required in function ewlc_capwap_dgram_srvr_state_update()
allow polaris_wncd_t self:rawip_socket { create_socket_perms setopt ioctl }

corentr_raw_bind_generic_node(polaris_wncd_t)

gen_require('type port_t;
')
allow polaris_wncd_t port_t:rawip_socket name_bind;

#allow to read /etc/passwd
auth_use_nsswitch(polaris_wncd_t)

#stuff related to vrf support of the socket
polaris_lfts_dev_use(polaris_wncd_t)
polaris_socketat_nsfs_read(polaris_wncd_t)

#each instance of wncd has a devshell support
corentr_tcp_bind_polaris_wncd_devshell_socket(polaris_wncd_t)

# extra instances of wncd do set up cyan database for given elastic number
polaris_dynetcfg_setup(polaris_wncd_t)

allow polaris_wncd_t self:capability dac_override;

# wncd does ionotify for /bootflash/apple_device_map.xml file in
# wsa_notif_register_filepath function
polaris_bootflash_read(polaris_wncd_t)
polaris_persistent_watch(polaris_wncd_t)

# manage pem certificates on /bootflash
polaris_persistent_manage(polaris_wncd_t)

# for /dev/shm/cerrno_dll
polaris_cerr_shm_manage(polaris_wncd_t)

###########################################################################
# For ewlc, wncd and wncmgrd needs access to files under /mnt/images/...these
# are related to AccessPoint images

type polaris_wlc_ap_images_t;
files_type(polaris_wlc_ap_images_t)

# wncd calls ewlc_get_ap_sw_version() to open/read
# /tmp/sw/rp/0/0/rp_wlc/mount/mnt/images/ap.pri/version.info
# call-chain: main -> ewlc_app_context_init -> wncd_evlib_app_init_cb ->
# ewlc_capwapac_lib_init -> capwapac_init_default_config -> ewlc_get_ap_sw_version
polaris_wlc_ap_images_read(polaris_wncd_t)

polaris_odm_clnt2svr_mqipc_create(polaris_wncd_t)

# wncd works with AF_NETLINK NLMSG_APP_SIP ewlc_sip_netlink_sock_init
allow polaris_wncd_t self:netlink_socket create_socket_perms;

logging_send_syslog_msg(polaris_wncd_t)

# binds to mdns port from mdns_ipv4_socket_init function
corennet_udp_bind_mdns_port(polaris_wncd_t)

# bind CAPWAP control and data
corennet_udp_bind_polaris_capwap_ctr_port(polaris_wncd_t)
corennet_udp_bind_polaris_capwap_data_port(polaris_wncd_t)

# allow read/write/mmap access to awips file
gen_require(`
type polaris_awips_signature_file_t;
`)
allow polaris_wncd_t polaris_awips_signature_file_t:file { map read open getattr unlink};

# allow read / write / unlink access to /bootflash/certs
polaris_wlc_ap_cert_manage(polaris_wncd_t)

# wncd ewlc-lisp interaction module, connect to lisp map-server on port 4342
corennet_tcp_connect_lisp_cons_control_port(polaris_wncd_t)

# binds to mdns bcp port from mdns_bcp function
corennet_udp_bind_mdns_bcp_port(polaris_wncd_t)

#DB persistence
polaris_tdldbpersist_setup(polaris_wncd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswncd.te
No license file was found, but licenses were detected in source scan.

#  
# July 2018, Victor Kamensky  
#  
# Copyright (c) 2018-2019 by Cisco Systems, Inc.  
# All rights reserved  
#  
## <summary>Polaris ngwc_fed_debug Policy Rules.</summary>  

########################################  
## <summary>  
## Connect to and send messages to /tmp/idope_svr and  
## /tmp/shfwd_svr unix datagram sockets.  
## </summary>  
## <param name="domain">  
## Domain allowed access.  
## </summary>  
## </param>  
#  
# interface('polaris_fed_debug_sock_write',)  
  
gen_require(`  
  type polaris_fed_debug_sock_t;  
  type polaris_ngwc_fed_debug_mgr_t;  
  type tmp_t;  
`)  

allow $1 self:unix_stream_socket {create_socket_perms};  
allow $1 polaris_ngwc_fed_debug_mgr_t:unix_stream_socket {connectto};  
write_sock_files_pattern($1, tmp_t, polaris_fed_debug_sock_t)  
`)  

Found in path(s):  
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwcfeddebug.if  
No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky  
#  
# Copyright (c) 2016-2020 by Cisco Systems, Inc.  
# All rights reserved  
#  
policy_module(polarispsd, 1.0);  

  
gen_require("
type polaris_psd_t;
)
polaris_btrace_data_manage(polaris_psd_t)
polaris_crft_data_manage(polaris_psd_t)
polaris_chasfs_manage(polaris_psd_t)
polaris_tdlresolve_read(polaris_psd_t)
polaris_tdlldb_list_dirs(polaris_psd_t)
polaris_cpld_read(polaris_psd_t)
polaris_flashlib_read(polaris_psd_t)
polaris_ripc_sman_ui_serv_connect(polaris_psd_t)
polaris_db_tdlldb_dir_use(polaris_psd_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_psd_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_psd_t)

# psd wants to run /usr/binos/bin/cfgwr command
corecmd_exec_bin(polaris_psd_t)
corecmd_exec_shell(polaris_psd_t)

# provide objstore access
polaris_disk_objstore_read(polaris_psd_t)

# work with /tmp files (/tmp/sh-thd-*
type polaris_psd_tmp_t;
files_tmp_file(polaris_psd_tmp_t)
files_tmp_filetrans(polaris_psd_t, polaris_psd_tmp_t, file)
manage_files_pattern(polaris_psd_t, polaris_psd_tmp_t, polaris_psd_tmp_t)
polaris_obfl_data_read(polaris_psd_t)

allow polaris_psd_t self:capability { fsetid };

allow polaris_psd_t self:capability { dac_override chown };
allow polaris_psd_t self:netlink_route_socket rw_netlink_socket_perms;
logging_send_syslog_msg(polaris_psd_t)

#psd need detect which terminal to use as console, need read permission to ttyS*
# psd need read/write grub configure file /boot/grub/menu.*: read /boot/grub/menu.bak
# , generate /boot/grub/menu.list
# read access to bootflash for bin file loading
ifdef(`vxe_family',`
term_use_unallocated_ttys(polaris_psd_t)
polaris_legacy_grub_manage(polaris_psd_t)
polaris_bootflash_read(polaris_psd_t)
polaris_disk_varied_read(polaris_psd_t)
)
ifdef(`wlc_family',

term_use_unallocated_ttys(polaris_psd_t)
bootloader_rw_config(polaris_psd_t)
polaris_disk_varied_read(polaris_psd_t)
)
ifdef(`vwlc_platform',
polaris_legacy_grub_manage(polaris_psd_t)
polaris_bootflash_read(polaris_psd_t)
)
polaris_disk_csl_manage(polaris_psd_t)

fs_read_nsfs_files(polaris_psd_t)
polaris_dynconfig_tmp_read(polaris_psd_t)
polaris_read_packages_conf(polaris_psd_t)

# handling /tmp/restconf

type polaris_restconf_t;
files_tmp_file(polaris_restconf_t)

files_tmp_filetrans(polaris_psd_t, polaris_restconf_t, dir, "restconf")
polaris_restconf_manage(polaris_psd_t)

# handling /tmp/.ncsshd_authorized_keys

type polaris_nccshd_keys_t;
files_tmp_file(polaris_nccshd_keys_t);

files_tmp_filetrans(polaris_psd_t, polaris_nccshd_keys_t, dir, ".nccshd_authorized_keys")
polaris_nccshd_keys_manage(polaris_psd_t)
polaris_tmp_tdlldb_persist_setup(polaris_psd_t)
polaris_tdlldb_persist_setup(polaris_psd_t)

# write mem updates the grub config files

optional_policy('polaris_grubcfg_manage(polaris_psd_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispsd.te
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

### <summary>Polaris fpm Policy Rules.</summary>

#################################################################

### <summary>
### Write fpm /var/run socket file
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_fpm_var_sock_write`,
    gen_require(`
        type polaris_fpm_t;
        type polaris_fpm_var_run_t;
        type var_run_t;
    `)
    write_sock_files_pattern($1, var_run_t, polaris_fpm_var_run_t)
    allow $1 polaris_fpm_t:unix_stream_socket { connectto };
    `)

#################################################################

### <summary>
### Manage mqipc fpm2fmrp shared memory file in /dev/shm directory
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_fpm2fmrp_mqipc_use`,
    gen_require(`
        type polaris_fpm2fmrp_mqipc_t;
    `)
    polaris_mqipc_use($1, polaris_fpm2fmrp_mqipc_t)
    `)
No license file was found, but licenses were detected in source scan.

# # Oct 2020, Xin Xiang
# # Copyright (c) 2020 by Cisco Systems, Inc.
# # All rights reserved
#

## <summary>Polaris Doppler Policy Rules.</summary>

### Work (read, write, ioctl) with /dev/dmamap

```c
interface("polaris_dmammap_dev_use",
  gen_require(
    type device_t;
    type polaris_dmammap_device_t;
  )
  write_chr_files_pattern($1, device_t, polaris_dmammap_device_t)
  read_chr_files_pattern($1, device_t, polaris_dmammap_device_t)
  allow $1 polaris_dmammap_device_t:chr_file map;
)
```

### Work (read, write, ioctl) with /dev/dmamap

```c
interface("polaris_dplr_dev_use",
  gen_require(
    type device_t;
    type polaris_dplr_device_t;
  )
  write_chr_files_pattern($1, device_t, polaris_dplr_device_t)
  read_chr_files_pattern($1, device_t, polaris_dplr_device_t)
  allow $1 polaris_dplr_device_t:chr_file map;
)
```
write_chr_files_pattern($1, device_t, polaris_dplr_device_t)
read_chr_files_pattern($1, device_t, polaris_dplr_device_t)
allow $1 polaris_dplr_device_t:chr_file map;
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdoppler.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

/usr/bin/os/conf/pvp.sh -- gen_context(system_u:object_r:polaris_pvp_exec_t,s0)
/tmp/sw/rp/max_elastic_bays -- gen_context(system_u:object_r:polaris_pvp_tmp_t,s0)
/tmp/iosd_memory_share -- gen_context(system_u:object_r:polaris_pvp_tmp_t,s0)
/tmp/cc/0(/.*)?                          gen_context(system_u:object_r:polaris_pvp_tmp_t,s0)
/tmp/cc/.*/pvp(/.*)?                     gen_context(system_u:object_r:polaris_pvp_tmp_t,s0)
/tmp/rp/pvp/oir/sw_lic_service(/.*)?    gen_context(system_u:object_r:polaris_chasfs_t,s0)
/tmp/rp/pvp/oir/sw_csl_service(/.*)?    gen_context(system_u:object_r:polaris_chasfs_t,s0)
/tmp/rp/pvp/oir/rp_(.*)(/.*)?            gen_context(system_u:object_r:polaris_chasfs_t,s0)
/tmp/rp/pvp(process_state(/.*)?          gen_context(system_u:object_r:polaris_process_state_t,s0)
/tmp/rp/pvp(process_state(/.*)?          gen_context(system_u:object_r:polaris_process_state_t,s0)
/tmp/cc/pvp/process_state(/.*)?          gen_context(system_u:object_r:polaris_process_state_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispvp.fc
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariswlc, 1.0);
# hanet driver used by vwlc, is there better place for it?
type polaris_hanet_device_t;
dev_node(polaris_hanet_device_t)

gen_require(
    type polaris_wlc_ap_images_t;
    type mnt_t;
    attribute polaris_extended_domain;
')

# transition when /mnt/images is created
filetrans_pattern(polaris_extended_domain, mnt_t, polaris_wlc_ap_images_t, dir, "images")

# epaN and epactrlN devices
type polaris_epa_device_t;
dev_node(polaris_epa_device_t)

# luna_fpgs device
type polaris_luna_mbfpga_device_t;
dev_node(polaris_luna_mbfpga_device_t)

# astro device
type polaris_astro_device_t;
dev_node(polaris_astro_device_t)

# cpp_il device
type polaris_cpp_il_device_t;
dev_node(polaris_cpp_il_device_t)

# oob_evfc device
type polaris_oob_evfc_device_t;
dev_node(polaris_oob_evfc_device_t)

# on vwlc all processes read grub_cisco_version in polaris_disk_varied_t
gen_require( 
    attribute polaris_domain; 
')
polaris_disk_varied_search(polaris_domain)

# /dev/sfp-ktr device
type polaris_sfp_katar_device_t;
dev_node(polaris_sfp_katar_device_t)

# handle /tmp/vxe_disk XXX YYY files
ifdef('vwlc_platform',
    gen_require(' 
        type unconfined_service_t; 
')
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_mbr_v1")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_mbr_v2")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_mbr_v3")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_mbr_v4")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_gpt_v1")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_gpt_v2")
polaris_boot_tmp_filetrans(unconfined_service_t, file, "vxe_disk_gpt_v3")
polaris_boot_tmp_manage(unconfined_service_t)

) type polaris_grubver_t;
polaris_pfile_type(polaris_grubver_t)

type polaris_grub_bios_t;
polaris_pfile_type(polaris_grub_bios_t)

# on vWLC, all processes read grubenv from EFI disk partition.
gen_require('  attribute polaris_domain;
')
polaris_vwlc_grub_efi_search(polaris_domain)

type polaris_vwlclinstall_info_t;
polaris_pfile_type(polaris_vwlclinstall_info_t)

gen_require('  type unconfined_service_t;
    type polaris_disk_varied_t;
')

# unconfined service create /boot/.install_info if does not exist yet
filetrans_pattern(unconfined_service_t, polaris_disk_varied_t, polaris_vwlclinstall_info_t, file, ".install_info")

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswlc.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
/tmp/sw/boot/rmonbifo(/.*)? gen_context(system_u:object_r:polaris_rmonbifo_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrmonbifo.fc
No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky  
#  
# Copyright (c) 2017-2019 by Cisco Systems, Inc.  
# All rights reserved  
#  

# polarisblogger file contexts place holder

Found in path(s):

* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisblogger.fc

No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky  
#  
# Copyright (c) 2017-2020 by Cisco Systems, Inc.  
# All rights reserved  
#  

policy_module(polarisnifmgr, 1.0);

gen_require(`
   type polaris_nif_mgr_t;
')

polaris_ripc_sman_ui_serv_connect(polaris_nif_mgr_t)

polaris_btrace_data_manage(polaris_nif_mgr_t)
polaris_crft_data_manage(polaris_nif_mgr_t)
polaris_chasfs_manage(polaris_nif_mgr_t)
polaris_tdlresolve_read(polaris_nif_mgr_t)
polaris_tdldb_list_dirs(polaris_nif_mgr_t)
polaris_cpld_read(polaris_nif_mgr_t)
polaris_lua_read(polaris_nif_mgr_t)
polaris_flashlib_read(polaris_nif_mgr_t)

#if romvar is not set, Set Rommon env varaible needs write permission
polaris_flashlib_write(polaris_nif_mgr_t)

logging_send_syslog_msg(polaris_nif_mgr_t)

# set out of band interface mac set_oobndif_mac
allow polaris_nif_mgr_t self:tcp_socket ioctl;

# communication between the nif manager and fed use directories under /tmp/sv
polaris_sv_tmp_use(polaris_nif_mgr_t)

# /dev/shm/sdm access
optional_policy(
    polaris_sdm_shm_manage(polaris_nif_mgr_t)
')

# open /dev/ttyS0 console in sco_sys_init_sw_params
term_use_unallocated_ttys(polaris_nif_mgr_t)

# allow create and write access to the /proc/*_sesa file

gen_require(
    type polaris_proc_sesa_t;
    ')
polaris_proc_sesa_create_write(polaris_nif_mgr_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisnifmgr.te
No license file was found, but licenses were detected in source scan.

#
# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisdmiopdatamgrd, 1.0);

gen_require(
    type polaris_dmi_opdatamgrd_t;
    ')

# allow to get getattr of /proc file system
domain_read_all_domains_state(polaris_dmi_opdatamgrd_t)

# work with /var/log/dmi/ files
type polaris_dmi_var_log_t;
logging_log_file(polaris_dmi_var_log_t)
manage_files_pattern(polaris_dmi_opdatamgrd_t, polaris_dmi_var_log_t, polaris_dmi_var_log_t)
manage_dirs_pattern(polaris_dmi_opdatamgrd_t, polaris_dmi_var_log_t, polaris_dmi_var_log_t)
logging_log_filetrans(polaris_dmi_opdatamgrd_t, polaris_dmi_var_log_t, dir, "dmi")
polaris_chasfs_manage(polaris_dmi_opdatamgrd_t)
polaris_btrace_data_manage(polaris_dmi_opdatamgrd_t)
polaris_cpld_read(polaris_dmi_opdatamgrd_t)
polaris_boot_tmp_read(polaris_dmi_opdatamgrd_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_dmi_opdatamgrd_t)

# this (opdatamgrd.sh) process is shell script need permission to execute shell
# and variety of small util commands under bin_t
corecmd_exec_shell(polaris_dmi_opdatamgrd_t)
corecmd_exec_bin(polaris_dmi_opdatamgrd_t)

# allow read of /etc/passwd
# passwd_file_t:file { getattr open read };
auth_use_nsswitch(polaris_dmi_opdatamgrd_t)

# opdatamgrd.sh calls ps command
# ps needs access to /sys/devices/system/cpu/online
dev_read_sysfs(polaris_dmi_opdatamgrd_t)
# ps needs access to proc_t
kernel_read_system_state(polaris_dmi_opdatamgrd_t)

allow polaris_dmi_opdatamgrd_t s:elf:capability { sys_resource dac_override };

# handling of /tmp/stream-parsers
type polaris_dmi_parser_t;
files_tmp_file(polaris_dmi_parser_t)
files_tmp_filetrans(polaris_dmi_opdatamgrd_t, polaris_dmi_parser_t, dir, "stream-parsers")
manage_dirs_pattern(polaris_dmi_opdatamgrd_t, tmp_t, polaris_dmi_parser_t)
manage_files_pattern(polaris_dmi_opdatamgrd_t, polaris_dmi_parser_t, polaris_dmi_parser_t)

mount_domtrans(polaris_dmi_opdatamgrd_t)

# confd_cli runs under our label
allow polaris_dmi_opdatamgrd_t s:elf:tcp_socket create_socket_perms;

# runs ps that wants to have access to containers files
optional_policy(
  polaris_disk_vman_dir_list(polaris_dmi_opdatamgrd_t)
  ')
polaris_sandbox_file_dir_list(polaris_dmi_opdatamgrd_t)
polaris_sandbox_file_getattr(polaris_dmi_opdatamgrd_t)

# runs find to search all 'parse.*' files
# find . -perm /111 -name parse.* -exec basename {} ;
# LOOK AT ME it seems that it does search on customer visible
# directories, can and whether customer supposed to be
# able give parse.* files to dmi opdatamgrd, could it
# be exploited?
files_getattr_all_files(polaris_dmi_opdatamgrd_t)
files_getattr_all_dirs(polaris_dmi_opdatamgrd_t)

# access to /dev/pts/0
ssh_use_ptys(polaris_dmi_opdatamgrd_t)

# directly work with to /dev/ttyS1
term_use_unallocated_ttys(polaris_dmi_opdatamgrd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmiopdatamgrd.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

###<summary>Polaris ngwe_fed Policy Rules.</summary>

#####################################################
###<summary>
### Connect to and send messages to /tmp/dbgmn_log_sv unit
### datagram socket.
### </summary>
###<param name="domain">
###<summary>
### Domain allowed access.
### </summary>
### </param>
#
interface('polaris_fed_sock_write',`
    gen_require(`
        type polaris_fed_sock_t;
        type polaris_ngwc_fed_t;
        type tmp_t;
    `)
)

allow $1 self:unix_stream_socket {create_socket_perms};
allow $1 polaris_ngwc_fed_t:unix_stream_socket {connectto};
write_sock_file_pattern($1, tmp_t, polaris_fed_sock_t)
`)

#####################################################
###<summary>
### Allow the specified domain able to read fed /tmp files.
### </summary>
## <param name="type">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>

## <param name="object">
##      <summary>
##      File name in /tmp that the fed domain creates and other domains
##      access.
##      </summary>
## </param>

# interface("polaris_fed_tmp_files_read",
    gen_require(
        type polaris_fed_tmp_t;
    ')

    read_files_pattern($1, polaris_fed_tmp_t, polaris_fed_tmp_t)
')

########################################
## <summary>
##      Allow to read and write /tmp/epc_ws/fed_to_wif_pipe file.
## </summary>
## <param name="domain">
##      <summary>
##      epc_ws_liaison and ngwc-fed pipe interaction.
##      </summary>
## </param>

# interface("polaris_fed_shm_file_read",
    gen_require(
        type polaris_ngwc_fed_t;
    ')

    allow $1 polaris_ngwc_fed_t:shm { associate read unix_read unix_write write };'
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngwcfed.if
No license file was found, but licenses were detected in source scan.

# # August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
# polarismobilityd file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismobilityd.fc
No license file was found, but licenses were detected in source scan.

#  
# April 2017, Victor Kamensky  
#  
# Copyright (c) 2017-2019 by Cisco Systems, Inc.  
# All rights reserved  
#

policy_module(polarisdmvtyserverultild, 1.0);

gen_require(
   type polaris_dmi_vtyserverultild_t;
)

polaris_btrace_data_manage(polaris_dmi_vtyserverultild_t)
polaris_chasfs_manage(polaris_dmi_vtyserverultild_t)
polaris_tdlresolve_read(polaris_dmi_vtyserverultild_t)
polaris_tlddb_list_dirs(polaris_dmi_vtyserverultild_t)
polaris_cpld_read(polaris_dmi_vtyserverultild_t)
polaris_flashlib_read(polaris_dmi_vtyserverultild_t)

allow polaris_dmi_vtyserverultild_t self:socket { connect create read write };

type polaris_dmi_vtyserverultild_tmp_t;
files_tmp_file(polaris_dmi_vtyserverultild_tmp_t)
files_tmp_filetrans(polaris_dmi_vtyserverultild_t, polaris_dmi_vtyserverultild_tmp_t, fifo_file, ",.DMI_FIFO")
manage_fifo_files_pattern(polaris_dmi_vtyserverultild_t,
polaris_dmi_vtyserverultild_tmp_t,polaris_dmi_vtyserverultild_tmp_t)

logging_send_syslog_msg(polaris_dmi_vtyserverultild_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmvtyserverultild.te
No license file was found, but licenses were detected in source scan.

dnl  
dnl April 2018, Victor Kamensky  
dnl  
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.  
dnl All rights reserved  
dnl

define('mqipc_stem', `translit(patsubst($1, `-mqipc$', `'), `-','`_.')`)
define('mqipc_label', 'format('polaris_%s_mqipc_t', mqipc_stem($1)))

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_mqipc.m4
No license file was found, but licenses were detected in source scan.

#
# November 2020, Christine Hwang
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris Cabo GNSS Policy Rules.</summary>

#######################################################
## <summary>
##      Work (read, write, ioctl) with /dev/ttyS1
## </summary>
## <param name="domain">
##      Domain allowed access.
## </summary>
#
interface('polaris_cabo_gnss_dev_use',
    gen_require(
        type device_t;
        type polaris_cabo_gnss_device_t;
    )
    write_chr_files_pattern($1, device_t, polaris_cabo_gnss_device_t)
    read_chr_files_pattern($1, device_t, polaris_cabo_gnss_device_t)
    allow $1 polaris_cabo_gnss_device_t:chr_file map;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscabognss.if
No license file was found, but licenses were detected in source scan.

#
# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
policy_module(polaristservice, 1.0);
polaris_process_domain_template(tservice_telnet)

polaris_process_domain_template(tservice_ssh)

gen_require('  
    type inetd_exec_t, inetd_t;
')
domtrans_pattern(polaris_tservice_telnet_t, inetd_exec_t, inetd_t)

polaris_chasfs_manage(polaris_tservice_telnet_t)
polaris_btrace_data_manage(polaris_tservice_telnet_t)
polaris_cpld_read(polaris_tservice_telnet_t)
polaris_boot_tmp_read(polaris_tservice_telnet_t)
polaris_rmonbifo_tmp_read(polaris_tservice_telnet_t)

corecmd_exec_shell(polaris_tservice_telnet_t)
corecmd_exec_bin(polaris_tservice_telnet_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_tservice_telnet_t)

dmidecode_domtrans(polaris_tservice_telnet_t)

allow polaris_tservice_telnet_t self:capability sys_resource;
kernel_read_system_state(polaris_tservice_telnet_t)

gen_require('  
    type initrc_exec_t, initrc_t;
')
domtrans_pattern(polaris_tservice_telnet_t, initrc_exec_t, initrc_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_tservice_telnet_t)

# /bin/sh /usr/binos/conf/mcp_chvrf.sh eobc /usr/sbin/xinetd -f
#        /tmp/chassis/local/rp/chasfs/rp/0/0/etc/telnet/xinetd_telnetd.conf
polaris_chvrf_domtrans(polaris_tservice_telnet_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristservice.te
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019, 2021 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris WLC Platform Policy Rules.</summary>

### <summary>
### Work (read, write, ioctl) with /dev/hanet
### <summary>
### Domain allowed access.
### </summary>
### </param>

```
interface('polaris_hanet_dev_use',
  gen_require(''
    type device_t;
    type polaris_hanet_device_t;
  ')
  write_chr_files_pattern($1, device_t, polaris_hanet_device_t)
  read_chr_files_pattern($1, device_t, polaris_hanet_device_t)
')
```

### <summary>
### Work (read, write, ioctl) with /dev/epa[0-9]* and /dev/epactrl[0-9]*
### <summary>
### Domain allowed access.
### </summary>
### </param>

```
interface('polaris_epa_dev_use',
  gen_require(''
    type device_t;
    type polaris_epa_device_t;
  ')
  write_chr_files_pattern($1, device_t, polaris_epa_device_t)
  read_chr_files_pattern($1, device_t, polaris_epa_device_t)
  allow $1 polaris_epa_device_t:chr_file map;
')
```

### <summary>
### Work (read, write, ioctl) with /dev/luna_mbfpga device
### <summary>
### Domain allowed access.
### </summary>
### </param>

```
```
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_luna_mbfpga_dev_use',
gen_require(
    type device_t;
    type polaris_luna_mbfpga_device_t;
')
    write_chr_files_pattern($1, device_t, polaris_luna_mbfpga_device_t)
    read_chr_files_pattern($1, device_t, polaris_luna_mbfpga_device_t)
')

######################################
## <summary>
## Work (read, write, ioctl) with /dev/astro device
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_astro_dev_use',
gen_require(
    type device_t;
    type polaris_astro_device_t;
')
    write_chr_files_pattern($1, device_t, polaris_astro_device_t)
    read_chr_files_pattern($1, device_t, polaris_astro_device_t)
')

######################################
## <summary>
## Work (read, write, ioctl) with /dev/cpp_il device
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_cpp_il_dev_use',
gen_require(
    type device_t;
    type polaris_cpp_il_device_t;
')
    write_chr_files_pattern($1, device_t, polaris_cpp_il_device_t)
    read_chr_files_pattern($1, device_t, polaris_cpp_il_device_t)
')
write_chr_files_pattern($1, device_t, polaris_cpp_il_device_t)
read_chr_files_pattern($1, device_t, polaris_cpp_il_device_t)

')

########################################################################
## <summary>
## Work (read, write, ioctl) with /dev/oob_evfc device
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_oob_evfc_dev_use',`
  gen_require(`
    type device_t;
    type polaris_oob_evfc_device_t;
  ')
  write_chr_files_pattern($1, device_t, polaris_oob_evfc_device_t)
  read_chr_files_pattern($1, device_t, polaris_oob_evfc_device_t)
')

########################################################################
## <summary>
## Work (read, write, ioctl) with /dev/sfp-ktr device
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_sfp_katar_dev_use',`
  gen_require(`
    type device_t;
    type polaris_sfp_katar_device_t;
  ')
  write_chr_files_pattern($1, device_t, polaris_sfp_katar_device_t)
  read_chr_files_pattern($1, device_t, polaris_sfp_katar_device_t)
')

########################################################################
## <summary>
## Read vWLC install info files
## </summary>
## <param name="domain">
##
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_vwlceinstall_info_read',
   gen_require('type polaris_vwlceinstall_info_t;
   ')
read_files_pattern($1, polaris_vwlceinstall_info_t, polaris_vwlceinstall_info_t)
list_dirs_pattern($1, polaris_vwlceinstall_info_t, polaris_vwlceinstall_info_t)
')

######################################
## <summary>
## Read /dev/vda1 device the efi partition
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_vwlce_grub_info_read',
   gen_require('type polaris_grubver_t;
   type polaris_grub_bios_t;
   type polaris_grub_efi_t;
   ')
read_files_pattern($1, polaris_grubver_t, polaris_grubver_t)
read_files_pattern($1, polaris_grub_bios_t, polaris_grub_bios_t)
read_files_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
list_dirs_pattern($1, polaris_grubver_t, polaris_grubver_t)
list_dirs_pattern($1, polaris_grub_bios_t, polaris_grub_bios_t)
list_dirs_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
')

######################################
## <summary>
## Search /dev/vda1 device the efi partition
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_vwlce_grub_efi_search',
   gen_require('type polaris_grubver_t;
   type polaris_grub_bios_t;
   type polaris_grub_efi_search_t;
   ')
read_files_pattern($1, polaris_grubver_t, polaris_grubver_t)
read_files_pattern($1, polaris_grub_bios_t, polaris_grub_bios_t)
read_files_pattern($1, polaris_grub_efi_search_t, polaris_grub_efi_search_t)
list_dirs_pattern($1, polaris_grubver_t, polaris_grubver_t)
list_dirs_pattern($1, polaris_grub_bios_t, polaris_grub_bios_t)
list_dirs_pattern($1, polaris_grub_efi_search_t, polaris_grub_efi_search_t)
')
type polaris_grub_efi_t;
')
search_dirs_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
')

######################################
## <summary>
## Work (read, write, ioctl) with /dev/vda1 device
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_vwlcl_grub_efi_use', `gen_require(`
type polaris_grub_efi_t;
')
write_chr_files_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
read_chr_files_pattern($1, polaris_grub_efi_t, polaris_grub_efi_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswlc.if
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
define(`database_stem', `translit(patsubst($1, `_DB$', `'), `A-Z', `a-z'))
define(`database_label', `format(`polaris_%s_db_tdldb_t', database_stem($1))')

define(`database_use_map', `defn(format(``database_use_map[%s-%s]', `$1', `$2'))')
define(`database_use_map_set', `define(format(``database_use_map[%s-%s]', `$1', `$2'), `$3'))

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_database_db.m4
No license file was found, but licenses were detected in source scan.

#
# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
policy_module(polarisdmidmiauthd, 1.0);

gen_require(
    type polaris_dmi_dmiauthd_t;
)

polaris_btrace_data_manage(polaris_dmi_dmiauthd_t)
polaris_crft_data_manage(polaris_dmi_dmiauthd_t)
polaris_chasfs_manage(polaris_dmi_dmiauthd_t)
polaris_tdlresolve_read(polaris_dmi_dmiauthd_t)
polaris_tdlldb_list_dirs(polaris_dmi_dmiauthd_t)
polaris_cpld_read(polaris_dmi_dmiauthd_t)
polaris_flashlib_read(polaris_dmi_dmiauthd_t)

polaris_ripic_sman_ui_serv_connect(polaris_dmi_dmiauthd_t)

polaris_db_tdlldb_dir_use(polaris_dmi_dmiauthd_t)

# dmiauthd creates and binds to /tmp/.DmiAuth.socket unix socket
type polaris_dmi_dmiauthd_tmp_t;
files_tmp_file(polaris_dmi_dmiauthd_tmp_t)
files_tmp_filetrans(polaris_dmi_dmiauthd_t, polaris_dmi_dmiauthd_tmp_t, { sock_file fifo_file })
manage_sock_files_pattern(polaris_dmi_dmiauthd_t, polaris_dmi_dmiauthd_tmp_t, polaris_dmi_dmiauthd_tmp_t)
manage_fifo_files_pattern(polaris_dmi_dmiauthd_t, polaris_dmi_dmiauthd_tmp_t, polaris_dmi_dmiauthd_tmp_t)

# dmiauthd creates diagnostic files in /tmp/netconf-yang-diag
type polaris_dmi_dmiauthd_tmp_diags_t;
files_tmp_file(polaris_dmi_dmiauthd_tmp_diags_t)
files_tmp_filetrans(polaris_dmi_dmiauthd_t, polaris_dmi_dmiauthd_tmp_diags_t, { sock_file fifo_file })

polaris_dmiauthd_tmp_diags Manage(polaris_dmi_dmiauthd_t)

logging_send_syslog_msg(polaris_dmi_dmiauthd_t)

# read confd log file and push into btrace
polaris_confd_log_read(polaris_dmi_dmiauthd_t)

# from dmilib iosp_connect through libiosp iosp_token_read_from_file
# iosp_token_read_from_file reads /tmp/rp/.iosp_dmiauthd
polaris_dmiauthd_token_read(polaris_dmi_dmiauthd_t)

gen_require(
    type polaris_confd_tmp_t;
)

# This is applicable to wireless platforms running in standby monitoring mode
# wherein dmiauthd create temporary files in /tmp/confd upon switchover and
# trigger ConfD restart.
manage_files_pattern(polaris_dmi_dmiauthd_t, polaris_confld_tmp_t, polaris_confld_tmp_t)
manage_dirs_pattern(polaris_dmi_dmiauthd_t, polaris_confld_tmp_t, polaris_confld_tmp_t)

########################################################################
# "show netconf-yang diagnostics [all | last | message]" invokes
# /usr/binos/conf/dmid_diag_logs.sh
########################################################################

polaris_utility_domain_template(dmid_diag_logs)
polaris_bexecute_domtrans(polaris_dmi_dmiauthd_t)
polaris_bexecute_domain(polaris_dmid_diag_logs_t, polaris_dmid_diag_logs_exec_t)

# signal sent during the show cmd
polaris_send_signal_to_bexecute(polaris_dmi_dmiauthd_t)

# read files in /tmp/netconf-yang-diag
polaris_dmiauthd_tmp_diags_read(polaris_dmid_diag_logs_t)

# need write/ioctl/getattr access for pipes
polaris_dmiauthd_use_fifo(polaris_dmid_diag_logs_t)

polaris_use_btrace_fifo(polaris_dmid_diag_logs_t)
polaris_btrace_data_manage(polaris_dmid_diag_logs_t)
polaris_chasfs_read(polaris_dmid_diag_logs_t)
polaris_cpld_read(polaris_dmid_diag_logs_t)
dev_read_sysfs(polaris_dmid_diag_logs_t)
auth_use_nsswitch(polaris_dmid_diag_logs_t)
polaris_boot_tmp_read(polaris_dmid_diag_logs_t)
fs_getattr_tmpfs(polaris_dmid_diag_logs_t)

# bash tmp files, such as /tmp/sh-thd-1599654988
type polaris_dmid_diag_logs_tmp_t;
files_tmp_file(polaris_dmid_diag_logs_t)
files_tmp_filetrans(polaris_dmid_diag_logs_tmp_t, polaris_dmid_diag_logs_exec_t)
manage_files_pattern(polaris_dmid_diag_logs_t, polaris_dmid_diag_logs_tmp_t, file)

# execute /bin/sed
corecmd_exec_bin(polaris_dmid_diag_logs_t)

########################################################################
# Allow diagnostics feature to create log file in bootflash
########################################################################

# execute /bin/tar
corecmd_exec_bin(polaris_dmi_dmiauthd_t)
# tar reads /etc/passwd
auth_use_nsswitch(polaris_dmi_dmiauthd_t)
# create log file in bootflash
polaris_bootflash_manage(polaris_dmi_dmiauthd_t)

allow polaris_dmi_dmiauthd_t self:capability sys_resource;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmidmiauthd.te

No license file was found, but licenses were detected in source scan.

# September 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisunconfined, 1.0);

## <desc>
## <p>
## IOSd runs in unconfined mode
## </p>
## </desc>
gen_tunable(polaris_unconfined_iosd, true)

## <desc>
## <p>
## All polaris processes except IOSd runs in unconfined mode
## </p>
## </desc>
gen_tunable(polaris_unconfined_all, true)

gen_require(`
    type apmd_t;
    type auditd_t;
    type inetd_t;
    type init_t;
    type initrc_t;
    type journalctl_t;
    type rpcbind_t;
    type rpcd_t;
    type sshd_t;
    type syslogd_t;
    type telnetd_t;
    type udev_t;
    type virtd_t;

Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 952
type virtlogd_t;
type vmtools_t;
type ifconfig_t;
type setfiles_t;
type iptables_t;
type virsh_t;
type svirt_t;
type svirt_lxc_net_t;
type virtd_lxc_t;
}

polaris_domain_maybe_unconfined(apmd_t)
polaris_domain_maybe_unconfined(auditd_t)
polaris_domain_maybe_unconfined(inetd_t)
polaris_domain_maybe_unconfined(init_t)
polaris_domain_maybe_unconfined(initrc_t)
polaris_domain_maybe_unconfined(journalctl_t)
polaris_domain_maybe_unconfined(rpcbind_t)
polaris_domain_maybe_unconfined(rpcd_t)
polaris_domain_maybe_unconfined(sshd_t)
polaris_domain_maybe_unconfined(syslogd_t)
polaris_domain_maybe_unconfined(telnetd_t)
polaris_domain_maybe_unconfined(udev_t)
polaris_domain_maybe_unconfined(virtd_t)
polaris_domain_maybe_unconfined(virtlogd_t)
polaris_domain_maybe_unconfined(vmtools_t)
polaris_domain_maybe_unconfined(ifconfig_t)
polaris_domain_maybe_unconfined(setfiles_t)
polaris_domain_maybe_unconfined(iptables_t)
polaris_domain_maybe_unconfined(virsh_t)
polaris_domain_maybe_unconfined(svirt_t)
polaris_domain_maybe_unconfined(svirt_lxc_net_t)
polaris_domain_maybe_unconfined(virtd_lxc_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisunconfined.te
No license file was found, but licenses were detected in source scan.

#
# May 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

/opt/confd/bin/confd -- gen_context(system_u:object_r:confd_exec_t:s0)
/opt/confd/lib/confd/lib/core/confd/priv/mmap_schema --
gen_context(system_u:object_r:mmap_schema_exec_t:s0)
Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisconfd.fc
No license file was found, but licenses were detected in source scan.

#
# July 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

/tmp/HTX-IOX(/.*)? gen_context(system_u:object_r:polaris_htx_iox_tmp_t,s0)

# /dev/sppi_memif htx works with
/dev/sppi_memif -c gen_context(system_u:object_r:polaris_sppi_memif_device_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarishtx.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/bin/conf/periodic.sh -- gen_context(system_u:object_r:polaris_periodic_exec_t,s0)
policy_module(polarislua, 1.0);

# Lua policy

policy_module(polariscabognss, 1.0);

gen_require(
    type polaris_cabo_gnss_t;
)

polaris_btrace_data_manage(polaris_cabo_gnss_t)
polaris_chasfs_manage(polaris_cabo_gnss_t)
polaris_tdlresolve_read(polaris_cabo_gnss_t)
polaris_cpld_read(polaris_cabo_gnss_t)
polaris_ripc_sman_ui_serv_connect(polaris_cabo_gnss_t)

# Allow sysfs read for platform ID and
# r/w on /sys/class/gpio/export
polaris_sysfs_manage(polaris_cabo_gnss_t)
dev_manage_sysfs_dirs(polaris_cabo_gnss_t)
# Allow Cabo GNSS to access/modify to GPS GPIO
polaris_ggpio_dev_read_write(polaris_cabo_gnss_t)

# Allow Cabo GNSS access to /dev/pps0
dev_rw_realtime_clock(polaris_cabo_gnss_t)

# allow system time capability to check for system timeout
allow polaris_cabo_gnss_t self:capability sys_time;

# Label Cabo GNSS TTY device
type polaris_cabo_gnss_device_t;
dev_node(polaris_cabo_gnss_device_t)
polaris_cabo_gnss_dev_use(polaris_cabo_gnss_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscabognss.te
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl WLC Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 1)
max_bay_map_set(`fp', `per_bay', 0)

max_bay_ripc_map_set(`rp', `per_bay', 0)
max_bay_ripc_map_set(`cc', `per_bay', 1)
max_bay_ripc_map_set(`fp', `per_bay', 0)

max_bay_ripc_map_set(`rp', `global', 0)
max_bay_ripc_map_set(`cc', `global', 1)
max_bay_ripc_map_set(`fp', `global', 0)

dnl in elastic scope each process has its own value
max_elastic_map_set(`rp', `elastic', BPROC_ODM, 1)
max_elastic_map_set(`cc', `elastic', BPROC_ODM, 1)
max_elastic_map_set(`fp', `elastic', BPROC_ODM, 1)

max_elastic_map_set(`rp', `elastic', BPROC_WNCD, 7)
max_elastic_map_set(`cc', `elastic', BPROC_WNCD, 7)
max_elastic_map_set(`fp', `elastic', BPROC_WNCD, 7)
max_elastic_ripc_map_set(\'rp\', \'elastic\', BPROC_ODM, 1)
max_elastic_ripc_map_set(\'cc\', \'elastic\', BPROC_ODM, 1)
max_elastic_ripc_map_set(\'fp\', \'elastic\', BPROC_ODM, 1)

max_elastic_ripc_map_set(\'rp\', \'elastic\', BPROC_WNCD, 7)
max_elastic_ripc_map_set(\'cc\', \'elastic\', BPROC_WNCD, 7)
max_elastic_ripc_map_set(\'fp\', \'elastic\', BPROC_WNCD, 7)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/wlcmaps.m4
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris rogued Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrogued.if
No license file was found, but licenses were detected in source scan.

#
# August 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris flashcheck Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisflashcheck.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarissmd, 1.0);

gen_require(\'
type polaris_smd_t;
'

polaris_btrace_data_manage(polaris_smd_t)
polaris_crf_data_manage(polaris_smd_t)
polaris_chasfs_manage(polaris_smd_t)
polaris_tdlresolve_read(polaris_smd_t)
polaris_tdlldb_list_dirs(polaris_smd_t)
polaris_cpld_read(polaris_smd_t)
polaris_lua_read(polaris_smd_t)
polaris_flashlib_read(polaris_smd_t)
polaris_ripc_sman_ui_serv_connect(polaris_smd_t)

polaris_disk_type(polaris_smd_disk_t)
manage_files_pattern(polaris_smd_t, polaris_smd_disk_t, polaris_smd_disk_t)
polaris_db_tdlldb_dir_use(polaris_smd_t)

polaris_cerr_shm_manage(polaris_smd_t)

ifdef(`nyquist_platform',`
gen_require(`
    type polaris_bt_logger_smd_mqipc_t;
')

polaris_mqipc_create_name(polaris_smd_t, polaris_bt_logger_smd_mqipc_t, bt_logger_smd)
')
polaris_lfts_dev_use(polaris_smd_t)

allow polaris_smd_t self:capability { sys_resource net_bound_service };
polaris_socketat_nsfs_read(polaris_smd_t)
allow polaris_smd_t self:process setrlimit;
allow polaris_smd_t self:tcp_socket { getattr setsockopt bind create listen accept connect read write name_connect };
allow polaris_smd_t self:capability { net_admin sys_admin };

allow polaris_smd_t self:udp_socket { create_socket_perms recv_msg send_msg };
# smutil_msg_event_cb_handler() uses netlink
allow polaris_smd_t self:netlink_socket { bind create };

# LOOK AT ME: now smd may open arbitrary port on forwarding VRF (16)
# but in SELinux there is no way to differentiate between port spaces
# accross VRFs or namespaces. For now let's grant smd_t access to all ports
# regardless of VRF. In future investigate ways to be more restrictive
corenet_udp_bind_all_ports(polaris_smd_t)
coreneth_tcp_bind_http_port(polaris_smd_t)
coremeth_udp_sendrecv_generic_port(polaris_smd_t)
# LOOK AT ME: grants access to udp_bind on any node, but if we can
# be more specific and bind only to forwarding VRF related interfaces
coreneth_udp_bind_generic_node(polaris_smd_t)

# smd want to listen on http port 80 on VRF_FWD, for webauth code please see
# smd/webauth/src/webauth_io.c
coreneth_tcp_bind_http_port(polaris_smd_t)

allow polaris_smd_t self:capability dac_override;

logging_send_syslog_msg(polaris_smd_t)

allow polaris_smd_t self:capability net_raw;
allow polaris_smd_t self:packet_socket { create_socket_perms recv_msg send_msg };

# for access to disk html files (for webauth)
polaris_persistent_read(polaris_smd_t)

# transition for dc_profile_dir to polaris_smd_disk_t
gen_require("type initrc_t;")
polaris_bootflash_filetrans(initrc_t, polaris_smd_disk_t, dir, "dc_profile_dir")

# SANET is listening on http port(CSCvb41802)
# Hence, it needs to follow the same rule as nginx is using in polarisnginx.te
# FIXME: add interface to allow bind to port 1025-65535
coreneth_tcp_bind_all_ports(polaris_smd_t)

coloris_issu_tmp_files_read(polaris_smd_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissmd.te
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

/usr/binos/conf/cedge-tanman.sh -- gen_context(system_u:object_r:polaris_cedge_tanman_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscedgetanman.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/binos/conf/droputil.sh -- gen_context(system_u:object_r:polaris_droputil_exec_t,s0)

/tmp/rp/dropbox(/.*)?      gen_context(system_u:object_r:polaris_droputil_tmp_t,s0)
/tmp/rp/droputil(/.*)?     gen_context(system_u:object_r:polaris_droputil_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdroputil.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisvman, 1.0);

gen_require(' 
    type polaris_vman_t;
')

polaris_btrace_data_manage(polaris_vman_t) 
polaris_crft_data_manage(polaris_vman_t) 
polaris_chasfs_manage(polaris_vman_t)
polaris_tdlresolve_read(polaris_vman_t)
polaris_tlldb_list_dirs(polaris_vman_t)
polaris_cpld_read(polaris_vman_t)
polaris_flashlib_read(polaris_vman_t)

polaris_rpic_sman_ui_serv_connect(polaris_vman_t)

polaris_db_tlldb_dir_use(polaris_vman_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_vman_t)

polaris_rmonbifo_tmp_read(polaris_vman_t)
polaris_boot_tmp_read(polaris_vman_t)

logging_send_syslog_msg(polaris_vman_t)

modutils_read_module_deps(polaris_vman_t)
modutils_read_module_config(polaris_vman_t)
modutils_manage_module_config(polaris_vman_t)
modutils_domtrans_insmod(polaris_vman_t)
files_read_kernel_modules(polaris_vman_t)

corecmd_exec_bin(polaris_vman_t)
corecmd_exec_shell(polaris_vman_t)

# ifconfig related, ifconfig is executed in its own context
sysnet_domtrans_ifconfig(polaris_vman_t)

# VMAN calls vman_set_congestion_control_multiplex when the count
# of the bridge users reaches 2 and needs write permissions on
# contdev_multiplex
dev_rw_sysfs(polaris_vman_t)
fs_getattr_xattr_fs(polaris_vman_t)

virt_stream_connect(polaris_vman_t)
virt_read_pid_files(polaris_vman_t)

fs_rw_cgroup_files(polaris_vman_t)
kernel_read_system_state(polaris_vman_t)
# allow vman to read /dev/pts/*
term_use_generic_ptys(polaris_vman_t)
#allow polaris_vman_t polaris_udev_tmp_files_t:file open;
polaris_udev_tmp_read(polaris_vman_t)
#allow vman to run brctl in it's own domain
brctl_domtrans(polaris_vman_t)
#allow vman to run /sbin/fsck in script
fstools_domtrans(polaris_vman_t)
#allow vman to mount rootfs on polaris_disk_vman_t
allow polaris_vman_t polaris_disk_vman_t:dir mounton;
fs_mount_xattr_fs(polaris_vman_t)
#allow vman have capability for modify owner of the file
allow polaris_vman_t self:capability { chown fowner fsetid };
#allow vman to bind to unreserved tcp ports while it searches for
#port available to guest console to listen on
corenets_tcp_bind_unreserved_ports(polaris_vman_t)

# working with vman /var/ files
type polaris_var_vman_t;
files_var_file(polaris_var_vman_t)
files_var_filetrans(polaris_vman_t, polaris_var_vman_t, dir, "virtual-instance")
manage_files_pattern(polaris_vman_t, polaris_var_vman_t, polaris_var_vman_t)
manage_dirs_pattern(polaris_vman_t, polaris_var_vman_t, polaris_var_vman_t)
manage_sock_files_pattern(polaris_vman_t, polaris_var_vman_t, polaris_var_vman_t)

# working with vman persistent files
type polaris_disk_vman_t;
polaris_disk_type(polaris_disk_vman_t)
gen_require(
    type polaris_disk_bootflash_t;
    type polaris_disk_harddisk_t;
)
filetrans_pattern(polaris_vman_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t }, polaris_disk_vman_t, dir, "virtual-instance")
filetrans_pattern(polaris_vman_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t }, polaris_disk_vman_t, file, "virtual-instance.conf")
filetrans_pattern(polaris_vman_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t }, polaris_disk_vman_t, dir, "vman_fdb")

# allow creation of /bootflash/virtual-instance.conf file
manage_files_pattern(polaris_vman_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t }, polaris_disk_vman_t)
# allow creation of /bootflash/virtual-instance and /bootflash/vman_fdb directories
manage_dirs_pattern(polaris_vman_t, { polaris_disk_bootflash_t polaris_disk_harddisk_t }, polaris_disk_vman_t)
# vman can manage files inside of its own polaris_disk_vman_t directories
manage_files_pattern(polaris_vman_t, polaris_disk_vman_t, polaris_disk_vman_t)

# after all above transition we need to grant vman right to work with any
# persistent storage file since it needs to access and write .ova files
polaris_persistent_manage(polaris_vman_t)

# vman uses netlink socket to talk to lxc watchdog driver
# please see binos/vman/src/vman_lxc_wd.c
allow polaris_vman_t self:netlink_generic_socket { create_socket_perms sendto recvfrom };

# vman calls tipc-config which in turns wants to create AF_TIPC socket
allow polaris_vman_t self:socket create_socket_perms;

# vman uses `ip netns exec 0 ifconfig -a` command which in turns switches
# network namespace and need access to /proc/pid/ns/net file
fs_read_nfs_files(polaris_vman_t)

# this label is created to exchange log related information between container and host.
type polaris_vman_log_t;
# By making this label belong to polaris persistent storage combined with vman inheriting rights
# to manage polaris_disk via polaris_persistent_manage(), vman gains rights to manage below dirs.
polaris_disk_type(polaris_vman_log_t)
filetrans_pattern(polaris_vman_t, polaris_vman_tmp_t, polaris_vman_log_t, dir, "UtdLpsAlert-IOX")
filetrans_pattern(polaris_vman_t, polaris_vman_tmp_t, polaris_vman_log_t, dir, "UtdUrlf-IOX")
filetrans_pattern(polaris_vman_t, polaris_vman_tmp_t, polaris_vman_log_t, dir, "UtdAmp-IOX")
filetrans_pattern(polaris_vman_t, polaris_vman_tmp_t, polaris_vman_log_t, dir, "UtdTls-IOX")
filetrans_pattern(polaris_vman_t, polaris_vman_tmp_t, polaris_vman_log_t, dir, "UtdLogMappings-IOX")
allow polaris_vman_t polaris_vman_log_t:dir mounton;

# Allow vman to work with /bootflash/virtual-instance/UTD/rootfs
optional_policy(
  gen_require(
    type container_file_t;
  )
  allow polaris_vman_t container_file_t:filesystem { getattr unmount }
)

# Allow vman/ioxman to work with /tmp/HTX-IOX
optional_policy(
  gen_require(
    type polaris_hlx_iox_tmp_t;
  )
  allow polaris_vman_t polaris_hlx_iox_tmp_t:dir { getattr mounton open read }
)

# Allow vman to mount /tmp/binos-IOX
optional_policy(
  gen_require(
    type polaris_qfp_memif_t;
  )
  allow polaris_vman_t polaris_qfp_memif_t:dir mounton;
)

# vman_init.sh operates on /tmp/vman files
type polaris_vman_tmp_t;
files_tmp_file(polaris_vman_tmp_t)
files_tmp_filetrans(polaris_vman_t, polaris_vman_tmp_t)
polaris_systemd_tmpfiles_tmp_filetrans(polaris_vman_t, "vman")
manage_files_pattern(polaris_vman_t, polaris_vman_tmp_t, polaris_vman_tmp_t)
manage_dirs_pattern(polaris_vman_t, polaris_vman_tmp_t, polaris_vman_tmp_t)

# allow vman to work with /tmp/xml
fs_remount_tmpfs(polaris_vman_t)
fs_unmount_tmpfs(polaris_vman_tmp_t)
fs_unmount_xattr_fs(polaris_vman_t)
allow polaris_vman_t polaris_vman_tmp_t:dir mounton;
optional_policy(
    polaris_cedge_xml_tmp_manage(polaris_vman_t)
)

# relabel /bootflash/virtual-instance/UTD/tmpstaging to /dev/loopX
gen_require(
    type iso9660_t;
')
allow polaris_vman_t iso9660_t:filesystem { relabelfrom };

# configure /proc/sys/net/ipv4/conf/dpbr_0/arp_announce
kernel_search_network_sysctl(polaris_vman_t)
kernl_rw_net_sysctls(polaris_vman_t)
# configure e.g. /proc/sys/vm/nr_hugepages
kernel_rw_vm_sysctls(polaris_vman_t)

# need to do bind mount of /bootflash/SHARED-IOX
mount_domtrans(polaris_vman_t)

# vman accessing files under /tmp created by initrc like /tmp/gdev/md0/gdev-info
init_read_script_tmp_files(polaris_vman_t)

#DB persistence
polaris_tdldbpersist_setup(polaris_vman_t)
polaris_tmp_tdldbpersist_setup(polaris_vman_t)

gen_require(
    type initrc_t;
')
files_tmp_filetrans(initrc_t, polaris_vman_tmp_t, file, "cgroup.log")
dmidecode_domtrans(polaris_vman_t)

# read /etc/libvirt/libvirt.conf
virt_read_config(polaris_vman_t)

# vman_cgroup_yaml.sh through prep_csr_kumo (binos_functions-pd) checks for
# ovf-env.xml file existence in variety of directories includind
# /cdrom0/ovf-env.xml
fs_read_iso9660_files(polaris_vman_t)
# allow vman to manage loop device: finding free /dev/loopN device
# note vman code iterated over all /dev/loop* devices and try to lock
# them. As part of that iteration it tries /dev/loop_control
# what it should do instead is to use /dev/loop_control to get free
# device
dev_rwlock_loop_control(polaris_vman_t)

# PLEASE LOOK AT ME
# allow vman to read, write /dev/loopN devices that are
# under fixed_disk_device_t label. It is pretty strong premission
# and at this point it is only done for /dev/loopN devices.
# Can we do better? i.e move /dev/loopN to some other label?
storage_manage_fixed_disk(polaris_vman_t)

# when /bootflash or /harddisk are 100% full
allow polaris_vman_t self:capability sys_resource;

# allow VMAN to move disk.img to the disk
allow polaris_vman_t self:process setfscreate;

# vman mounts directories on behalf of guest containers, it uses
# specified context for guest directories, need permission to
# relabel, mount, etc.
fs_relabelfrom_xattr_fs(polaris_vman_t)
virt_relabel_sandbox_filesystem(polaris_vman_t)
virt_mounton_sandbox_file(polaris_vman_t)
virt_manage_sandbox_files(polaris_vman_t)
gen_require(''
    type svirt_sandbox_file_t;
')
allow polaris_vman_t svirt_sandbox_file_t:filesystem mount;

# /tmp/.flashlock operations from tdllib_startup_cfg_ignored, mcp_getmonvar
allow polaris_vman_t self:capability dac_override;

# allow vman to stat /dev/kvm, executed by vman_common_init function
dev_getattr_kvm_dev(polaris_vman_t)

# vman in getfs_info_by_mediatype function inspects files in /tmp/gdev
gen_require(''
    type udev_tmp_t;
')
read_files_pattern(polaris_vman_t, udev_tmp_t, udev_tmp_t)

#/usr/binos/conf/vman_exec.sh policy
polaris_utility_domain_template(vman_shell)
polaris_bexecute_domain(polaris_vman_shell_t, polaris_vman_shell_exec_t)
# vman_exec.sh calls mcp_chvrf.sh
polaris_chvrf_domtrans(polaris_vman_shell_t)
# mcp_chvrf.sh calls vman_exec.sh back and then it call bexec.sh
polaris_bexecute_domtrans(polaris_vman_shell_t)
corecmd_exec_bin(polaris_vman_shell_t)

# inherits stdin from telnetd
telnet_use_ptys(polaris_vman_shell_t)
# allow use of ptys for vman tech support
telnet_use_ptys(polaris_vman_tech_t)

optional_policy(`
# reads /opt/cisco/caf/config/system-config.ini
polaris_caf_files_read(polaris_vman_t)
`
)

# vman_is_machine_type_initialized clone needs cap_users sys_admin
allow polaris_vman_t self:cap_users sys_admin;

# vman_cgroup_yaml.sh searches for ovf-env.xml on cdrom0
fs_read_removable_files(polaris_vman_t)

# vman starts vman_init.sh that in turns calls virsh
gen_require(`
      type virsh_t_t;
      type virsh_exec_t;
`)
domtrans_pattern(polaris_vman_t, virsh_exec_t, virsh_t)

polaris_bexecute_domtrans(polaris_vman_t)
polaris_send_signal_to_bexecute(polaris_vman_t)

gen_require(`
      type polaris_chvrf_t;
`)
# inherited as stdin/sdtout from vman
polaris_vman_use_fifo(polaris_chvrf_t)

# vman calls code_sign_verify VmanPackage
polaris_code_verify_domtrans(polaris_vman_t)

# vm_net_dev_utilization reads /proc/2962/net/dev
kernel_read_network_state(polaris_vman_t)
	polaris_iosd_vcpu_read(polaris_vman_t)
# /usr/bin/os/conf/cgroup_reports.sh
polaris_utility_domain_template(cgroup_reports)

polaris_bexecute_domain(polaris_cgroup_reports_t, polaris_cgroup_reports_exec_t)
polaris_bexecute_domtrans(polaris_cgroup_reports_t)
# inherited as stdin/stdout from vman
polaris_vman_use_fifo(polaris_cgroup_reports_t)

corecmd_exec_bin(polaris_cgroup_reports_t)
auth_use_nsswitch(polaris_cgroup_reports_t)

fs_list_cgroup_dirs(polaris_cgroup_reports_t)

# cgroup_reports.sh creates misc files under /tmp
type polaris_cgroup_reports_tmp_t;
files_type(polaris_cgroup_reports_tmp_t)
files_tmp_filetrans(polaris_cgroup_reports_t, polaris_cgroup_reports_tmp_t, file)
manage_files_pattern(polaris_cgroup_reports_t, polaris_cgroup_reports_tmp_t, polaris_cgroup_reports_tmp_t)
fs_getattr_tmpfs(polaris_cgroup_reports_t)

# /usr/bin/os/conf/vman_techsupport.sh
polaris_utility_domain_template(vman_tech)

polaris_bexecute_domain(polaris_vman_tech_t, polaris_vman_tech_exec_t)
polaris_bexecute_domtrans(polaris_vman_tech_t)
# inherited as stdin/stdout from vman
polaris_vman_use_fifo(polaris_vman_tech_t)

# vman_techsupport.sh starts virsh -c qemu:///system list --all
gen_require(''
    type virsh_t;
    type virsh_exec_t;
')
domtrans_pattern(polaris_vman_tech_t, virsh_exec_t, virsh_t)

# starts ip link show
sysnet_domtrans_ifconfig(polaris_vman_tech_t)

# starts brctl show
brctl_domtrans(polaris_vman_tech_t)

corecmd_exec_bin(polaris_vman_tech_t)
auth_use_nsswitch(polaris_vman_tech_t)

polaris_proc_rmonbifo_read(polaris_vman_tech_t)
polaris_chasfs_read(polaris_vman_tech_t)
polaris_cpld_read(polaris_vman_tech_t)
# starts ps aux
kernel_read_system_state(polaris_vman_tech_t)
domain_read_all_domains_state(polaris_vman_tech_t)
dev_read_sysfs(polaris_vman_tech_t)
# getattr of stdin/stdout of misc processes
term_getattr_unallocated_ttys(polaris_vman_tech_t)
term_read_console(polaris_vman_tech_t)

# reads /bootflash/virtual-instance/
polaris_disk_vman_read(polaris_vman_tech_t)

# find /etc/libvirt/lxc -name *.xml -print
virt_read_config(polaris_vman_tech_t)
# no interface that lists virt/etc_rwlock dir
gen_require(`
    type virt/etc_rwlock;
`)
lst_dirs_pattern(polaris_vman_tech_t, virt/etc_rwlock, virt/etc_rwlock)

# find /var/run/libvirt -print
virt_read_pid_files(polaris_vman_tech_t)
# no interface that lists virt/var/run_t dir
gen_require(`
    type virt/var/run_t;
`)
lst_dirs_pattern(polaris_vman_tech_t, virt/var/run_t, virt/var/run_t)

# no interface that lists virt/lxc/var/run_t dir
gen_require(`
    type virt/lxc/var/run_t;
`)
lst_dirs_pattern(polaris_vman_tech_t, virt/lxc/var/run_t, virt/lxc/var/run_t)

# no interface that lists qemu_var_run_t dir
gen_require(`
    type qemu_var_run_t;
`)
lst_dirs_pattern(polaris_vman_tech_t, qemu_var_run_t, qemu_var_run_t)

# allow read of /run/libvirt/qemu
read_files_pattern(polaris_vman_tech_t, qemu_var_run_t, qemu/var_run_t)

# by some strange reason /var/run/libvirt/network is under dnsmasq_var_run_t label
dnsmasq_read_pid_files(polaris_vman_tech_t)
# no interface that lists dnsmasq_var_run_t dir
gen_require(`
    type dnsmasq_var_run_t;
`)
lst_dirs_pattern(polaris_vman_tech_t, dnsmasq_var_run_t, dnsmasq_var_run_t)
polaris_vman_var_read(polaris_vman_tech_t)

# cat /proc/net/dev
kernel_read_network_state(polaris_vman_tech_t)

# find /sys/class/net -name intsvc* -type d -print
dev_list_sysfs(polaris_vman_tech_t)

# grep over /varied/ovf-env.xml
polaris_disk_varied_read(polaris_vman_tech_t)

# writes into /tmp/vman_techsupport
polaris_vman_tmp_manage(polaris_vman_tech_t)

# find over /sys/fs/cgroup/memory/machine
fs_list_cgroup_dirs(polaris_vman_tech_t)
# cat /sys/fs/cgroup/memory/machine/memory.limit_in_bytes
fs_read_cgroup_files(polaris_vman_tech_t)

# runs df command
fs_getattr_xattr_fs(polaris_vman_tech_t)
fs_getattr_all_fs(polaris_vman_tech_t)
files_getattr_all_dirs(polaris_vman_tech_t)
# getattr over /run/netns/2
fs_read_nsfs_files(polaris_vman_tech_t)

# check existence of vman btrace file before passing it to btdecode
polaris_vman_bt_getattr(polaris_vman_tech_t)
# check existence of pman btrace file for vman before passing it to btdecode
polaris_pman_bt_getattr(polaris_vman_tech_t)

# vman_techsupport.sh creates misc files under /tmp
type polaris_vman_tech_tmp_t;
files_type(polaris_vman_tech_tmp_t)
files_tmp_filetrans(polaris_vman_tech_t, polaris_vman_tech_tmp_t, file)
manage_files_pattern(polaris_vman_tech_t, polaris_vman_tech_tmp_t, polaris_vman_tech_tmp_t)

# allow vman tech support to read container logs including listing dirs
gen_require(''
    type virt_log_t;
')
list_dirs_pattern(polaris_vman_tech_t, virt_log_t, virt_log_t)
virt_read_log(polaris_vman_tech_t)

# allow vman to access /etc/passwd
auth_map_passwd(polaris_vman_shell_t)
#vman does lvm storage management e.g. vman_libvirt_strg_available_by_pool
lvm_domtrans(polaris_vman_t)

# Allow read of pid files e.g. /run/udev/data/b7:34
udev_read_pid_files(polaris_vman_t)

# allow vman to connect to the WAAS container for serial vman_register_socket
polaris_waas_stream_connect(polaris_vman_t)

# allow vman to pgrep
# allow to get getattr of /proc file system
domain_read_all_domains_state(polaris_vman_t)

# allow vman to kill LXC container process that hasn't shutdown
# inspite of a shutdown command
gen_require(`
  type virtd_lxc_t;
`)
polaris_vman_kill_process(virtd_lxc_t)

# allow vman to rsync using ioxman_syslib.sh
rsync_entry_type(polaris_vman_t)
coreneth_tcp_connect_rsync_port(polaris_vman_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisvman.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/tmp/.ncsshd_authorized_keys(/.*)? gen_context(system_u:object_r:polaris_ncsshd_keys_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/pol战士职业.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris Btrace Policy Rules.</summary>

### Obfl policy

```plaintext
### <summary>
###     Read obfl files (under /obfl, /varied/obfl, etc)
### </summary>
### <param name="domain">
###     <summary>
###     Domain allowed access.
### </summary>
### </param>
### <rolebase/>
#
interface('polaris_obfl_data_read',
    gen_require(''
        type polaris_obfl_data_t;
        type root_t;
    ')
    read_lnk_files_pattern($1, root_t, polaris_obfl_data_t)
read_files_pattern($1, polaris_obfl_data_t, polaris_obfl_data_t)
list_dirs_pattern($1, polaris_obfl_data_t, polaris_obfl_data_t)
allow $1 polaris_obfl_data_t:file map;
')

### <summary>
###     Manage obfl files (under /obfl, /varied/obfl, etc)
### </summary>
### <param name="domain">
###     <summary>
###     Domain allowed access.
### </summary>
### </param>
### <rolebase/>
#
interface('polaris_obfl_data_manage',
    gen_require(''
        type polaris_obfl_data_t;
        type root_t;
        type var_t;
    ')
    read_lnk_files_pattern($1, root_t, polaris_obfl_data_t)
```

---

Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 971
manage_files_pattern($1, { var_t polaris_obfl_data_t }, polaris_obfl_data_t)
manage_dirs_pattern($1, { var_t polaris_obfl_data_t }, polaris_obfl_data_t)
allow $1 polaris_obfl_data_t:file map;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisobfl.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris Btrace Policy Rules.</summary>

# RIPC policy

interface(`polaris_ripc',
corenets
kurpnetTCPBindGenericNode($1)
allow $1 self:tcp_socket { getattr setopt getopt bind create listen accept connect read write };
# bipc would like to issue "setsockopt(sock, SOL_SOCKET, SO_VRF," which requires
# net_admin and sys_admin capabilities
allow $1 self:capability { net_admin sys_admin };

polaris_socketat_nsfs_read($1)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisripc.if
No license file was found, but licenses were detected in source scan.

#


# March 2017, Victor Kamensky
# # Copyright (c) 2016-2019 by Cisco Systems, Inc.
# # All rights reserved
#

/tmp/sw/boot(/.*)?               gen_context(system_u:object_r:polaris_boot_tmp_t,s0)
/tmp/sw/isos(/.*)?               gen_context(system_u:object_r:polaris_boot_tmp_t,s0)
/tmp/bootup_timestamp            gen_context(system_u:object_r:polaris_boot_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisboot.fc
No license file was found, but licenses were detected in source scan.

# # December 2019, Victor Kamensky
# # Copyright (c) 2019 by Cisco Systems, Inc.
# # All rights reserved
#

# polarisservicemgr file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisservicemgr.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris polarisboothelper Policy Rules.</summary>

#######################################
## <summary>
##      Read any regular file/directory from /tmp/udev.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_udev_tmp_read`,
   gen_require(`
type polaris_udev_tmp_files_t;

read_files_pattern($1, polaris_udev_tmp_files_t, polaris_udev_tmp_files_t)
list_dirs_pattern($1, polaris_udev_tmp_files_t, polaris_udev_tmp_files_t)

#######################################
## <summary>
##      Manage any regular file/directory from /tmp/udev.
## </summary>
## <param name="domain">
##      Domain allowed access.
## </param>
#
interface('polaris_udev_tmp_manage',
    gen_require(
        type polaris_udev_tmp_files_t;
    )
    manage_dirs_pattern($1, polaris_udev_tmp_files_t, polaris_udev_tmp_files_t)
    manage_files_pattern($1, polaris_udev_tmp_files_t, polaris_udev_tmp_files_t)
)

#######################################
## <summary>
##      Listdir of any regular directory from /tmp/udev.
## </summary>
## <param name="domain">
##      Domain allowed access.
## </param>
#
interface('polaris_udev_tmp_list_dirs',
    gen_require(
        type polaris_udev_tmp_files_t;
    )
    list_dirs_pattern($1, polaris_udev_tmp_files_t, polaris_udev_tmp_files_t)
)

#######################################
## <summary>
##      Watch udev_tmp_files directories and files
## </summary>
## <param name="domain">
##      Domain allowed access.
## </param>
#
interface('polaris_udev_tmp_watch',
  gen_require(
    type polaris_udev_tmp_files_t;
    
    allow $1 polaris_udev_tmp_files_t:{dir file} watch;
    
  )
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisboothelper.if

No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/cpp/bin/cpp_driver -- gen_context(system_u:object_r:polaris_cpp_driver_exec_t,s0)
/usr/cpp/bin/cpp_driver_ledp -- gen_context(system_u:object_r:polaris_cpp_driver_exec_t,s0)
/usr/cpp/bin/cpp_driver_us_ledp -- gen_context(system_u:object_r:polaris_cpp_driver_exec_t,s0)
/usr/cpp/bin/cpp_driver_vwlc -- gen_context(system_u:object_r:polaris_cpp_driver_exec_t,s0)
/usr/cpp/bin/cpp_driver_vwlc_ledp -- gen_context(system_u:object_r:polaris_cpp_driver_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppdriver.fc

No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

/usr/binos/conf/mcp_monitor_process_batchmode.sh --
gen_context(system_u:object_r:polaris_monitor_process_exec_t,s0)
/usr/binos/conf/pkg_summary.sh -- gen_context(system_u:object_r:polaris_pkg_summary_exec_t,s0)
/usr/binos/conf/pkg_to_tree.sh -- gen_context(system_u:object_r:polaris_pkg_to_tree_exec_t,s0)
/tmp/myhostname gen_context(system_u:object_r:polaris_hm_tmp_t,s0)
/tmp/show_provision_temp(/.*)? gen_context(system_u:object_r:polaris_show_provision_tmp_t,s0)
/tmp/fs_lock_bootflash gen_context(system_u:object_r:polaris_cli_fs_cmds_tmp_t,s0)
# used by "sh pla so filesystem bootflash: de" CLI
Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 976

/usr/binos/conf/mcp_cli_fs_cmds.sh -- gen_context(system_u:object_r:polaris_cli_fs_cmds_exec_t,s0)
# used by "show platform software yang-management process monitor" CLI
/usr/binos/conf/mcp_monitor_dmi_proc.sh --
gen_context(system_u:object_r:polaris_monitor_dmi_process_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarishm.fc
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris odm Policy Rules.</summary>

#######################################
## <summary>
## Mqipc channel in sub directory and multiple servers on TDL
## channel is not supported by autogen code. ODM odm_clnt2svr_data
## channel is one of those. Allow domain to be one server on it.
## ODM elastic value is 2 now, add more if need in the future.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <param name="mqipc_label">
## Mqipc channel file label.
## </param>
#
interface('polaris_odm_clnt2svr_mqipc_create',
    gen_require(
        type polaris_odm_client2server_data_mqipc_t;
    ')
    polaris_mqipc_create_name_dir($1, polaris_odm_client2server_data_mqipc_t, odm_clnt2svr_data-b1)
    polaris_mqipc_create_name_dir($1, polaris_odm_client2server_data_mqipc_t, odm_clnt2svr_data-b0)
    polaris_mqipc_create_name_dir($1, polaris_odm_client2server_data_mqipc_t, odm_clnt2svr_data)
    ')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisodm.if
No license file was found, but licenses were detected in source scan.

# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris install_mgr Policy Rules.</summary>

## <summary>
##      Read /tmp/sw/inst_tmp_1 files and directories
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_install_mgr_tmp_read',`
   gen_require(`
   type polaris_install_mgr_tmp_t;
   ')
   list_dirs_pattern($1, polaris_install_mgr_tmp_t, polaris_install_mgr_tmp_t)
   read_files_pattern($1, polaris_install_mgr_tmp_t, polaris_install_mgr_tmp_t)
   read_lnk_files_pattern($1, polaris_install_mgr_tmp_t, polaris_install_mgr_tmp_t)
   ')

## <summary>
##      Read/Write /.installer  files and directories
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_install_disk_manage',`
   gen_require(`
   type polaris_disk_bootflash_t;
   type polaris_disk_install_t;
   ')
   filetrans_pattern(polaris_install_mgr_t,polaris_disk_bootflash_t, polaris_disk_install_t, dir, ".installer")
   filetrans_pattern(polaris_install_mgr_t,polaris_disk_bootflash_t, polaris_disk_install_t, fifo_file, "inot_fifo")
manage_dirs_pattern($1, {polaris_disk_bootflash_t polaris_disk_install_t}, polaris_disk_install_t)
manage_files_pattern($1, polaris_disk_install_t, polaris_disk_install_t)
manage_fifo_files_pattern($1, polaris_disk_install_t, polaris_disk_install_t)

')

'######################################
## <summary>
##      Read /bootflash/ installer files and directories
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_install_disk_read',
  gen_require(
    type polaris_disk_install_t;
  ')
  read_files_pattern($1, polaris_disk_install_t, polaris_disk_install_t)
')

'######################################
## <summary>
##      Read copylog files (location varies by platform)
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <rolebase/>
#
interface(`polaris_read_user_file',
  gen_require(
    type polaris_user_file_t;
    type device_t;
  ')
  read_blk_files_pattern($1, device_t, polaris_user_file_t)
  read_files_pattern($1, polaris_user_file_t, polaris_user_file_t)
  read_link_files_pattern($1, polaris_user_file_t, polaris_user_file_t)
')

'######################################
## <summary>
##      getattr for copylog files (location varies by platform)
## <summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <rolebase/>
#
# interface('polaris_user_file_getattr',
#    gen_require(
#       type polaris_user_file_t;
#       type device_t;
#    ')

getattr_files_pattern($1, polaris_user_file_t, polaris_user_file_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisinstallmgr.if
No license file was found, but licenses were detected in source scan.

# # March 2020, Victor Kamensky
# # Copyright (c) 2020 by Cisco Systems, Inc.
# # All rights reserved
#

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisjvm.fc
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky
dnl
dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl Crankshaft (Overlord, Utah, Goldbeach, Neptune, TSN and Supernova) Platform Max Bay Limits
max_bay_map_set(`rp`, `per_bay`, 0)
max_bay_map_set(`cc`, `per_bay`, 19)
max_bay_map_set(`fp`, `per_bay`, 0)

max_bay_ripc_map_set(`rp`, `per_bay`, 0)
max_bay_ripc_map_set(`cc`, `per_bay`, 19)
max_bay_ripc_map_set(`fp`, `per_bay`, 0)

max_bay_ripc_map_set(`rp`, `global`, 0)
max_bay_ripc_map_set("cc", "global", 19)
max_bay_ripc_map_set("fp", "global", 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/crankshaftmaps.m4
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020-2021 by Cisco Systems, Inc.
# All rights reserved
#

/usr/bin/vconfd_script_reboot.sh -- gen_context(system_u:object_r:polaris_vconfd_reboot_exec_t:s0)
/usr/bin/vconfd_script_if_reset.sh -- gen_context(system_u:object_r:polaris_vconfd_ifreset_exec_t:s0)
/usr/bin/vconfd_script_get-config.sh -- gen_context(system_u:object_r:polaris_vconfd_cfg_exec_t:s0)
/usr/bin/vconfd_script_vmanage_list_stats.sh -- gen_context(system_u:object_r:polaris_vconfd_history_exec_t:s0)
/usr/bin/vconfd_script_vmanage_clear_stats.sh -- gen_context(system_u:object_r:polaris_vconfd_history_exec_t:s0)
/usr/bin/vconfd_script_activate.sh -- gen_context(system_u:object_r:polaris_vconfd_software_exec_t:s0)
/usr/bin/mcp_upgrade_wrapper.sh -- gen_context(system_u:object_r:polaris_vconfd_software_exec_t:s0)
/usr/bin/vconfd_script_nms_action.sh -- gen_context(system_u:object_r:polaris_vconfd_nms_exec_t:s0)
/usr/bin/vconfd_script_add_chassis_numbers_to_ztp.sh -- gen_context(system_u:object_r:polaris_vconfd_device_exec_t:s0)
/usr/bin/vconfd_script_remove_chassis_numbers_from_ztp.sh -- gen_context(system_u:object_r:polaris_vconfd_device_exec_t:s0)
/usr/bin/vconfd_script_upload_chassis_number_file.sh -- gen_context(system_u:object_r:polaris_vconfd_device_exec_t:s0)
/usr/bin/reset-conf -- gen_context(system_u:object_r:polaris_vconfd_reset_exec_t:s0)
/usr/bin/reset-logs -- gen_context(system_u:object_r:polaris_vconfd_reset_exec_t:s0)
/usr/bin/patch.sh -- gen_context(system_u:object_r:polaris_vconfd_software_exec_t:s0)
/usr/bin/vconfd_script_reset_vsmart_serial_list.sh -- gen_context(system_u:object_r:polaris_vconfd_reset_exec_t:s0)
/usr/bin/vconfd_script_cert.sh -- gen_context(system_u:object_r:polaris_vconfd_cert_exec_t:s0)
/usr/bin/vconfd_script_show_cert.sh -- gen_context(system_u:object_r:polaris_vconfd_cert_exec_t:s0)
/usr/bin/vconfd_script_show_root_ca_cert.sh --
gen_context(system_u:object_r:polaris_vconfd_cert_exec_t:s0)
/usr/bin/vconfd_script_upload_root_ca_crt_chain.sh --
gen_context(system_u:object_r:polaris_vconfd_cert_exec_t:s0)
/usr/bin/vconfd_script_uninstall_root_ca_crt_chain.sh --
gen_context(system_u:object_r:polaris_vconfd_cert_exec_t:s0)
/usr/bin/vconfd_script_tlsproxy_install_certs.sh --
gen_context(system_u:object_r:polaris_vconfd_cert_exec_t:s0)
/usr/bin/vconfd_script_tlsproxy_remove_certs.sh --
gen_context(system_u:object_r:polaris_vconfd_cert_exec_t,s0)

/usr/bin/vconfd_script_csr.sh -- gen_context(system_u:object_r:polaris_vconfd_csr_exec_t,s0)
/usr/bin/vconfd_script_show_csr.sh -- gen_context(system_u:object_r:polaris_vconfd_csr_exec_t,s0)
/usr/bin/vconfd_script_sign_csr.sh -- gen_context(system_u:object_r:polaris_vconfd_csr_exec_t,s0)
/usr/bin/vconfd_script_upload_vsmart_serial_numbers.sh --
gen_context(system_u:object_r:polaris_vconfd_serialnum_exec_t,s0)
/usr/bin/vconfd_script_upload_vedge_serial_numbers.sh --
gen_context(system_u:object_r:polaris_vconfd_serialnum_exec_t,s0)
/usr/bin/vconfd_script_fetch_core_info.sh -- gen_context(system_u:object_r:polaris_vconfd_crash_exec_t,s0)
# admin-tech scripts skipped defined in some other place
/usr/bin/list_crashtech_files.sh -- gen_context(system_u:object_r:polaris_vconfd_crash_exec_t,s0)
/usr/bin/vconfd_script_unlock_user.sh -- gen_context(system_u:object_r:polaris_vconfd_aaa_exec_t,s0)
/usr/bin/vconfd_script_set_password.sh -- gen_context(system_u:object_r:polaris_vconfd_aaa_exec_t,s0)
/usr/bin/vconfd_script_container.sh -- gen_context(system_u:object_r:polaris_vconfd_contr_exec_t,s0)
/usr/bin/polaris_iox_precheck.sh -- gen_context(system_u:object_r:polaris_vconfd_iox_exec_t,s0)
/usr/bin/polaris_iox_install.sh -- gen_context(system_u:object_r:polaris_vconfd_iox_exec_t,s0)
/usr/bin/polaris_iox_upgrade.sh -- gen_context(system_u:object_r:polaris_vconfd_iox_exec_t,s0)
/usr/bin/polaris_iox_uninstall.sh -- gen_context(system_u:object_r:polaris_vconfd_iox_exec_t,s0)
/usr/bin/polaris_iox_reset.sh -- gen_context(system_u:object_r:polaris_vconfd_iox_exec_t,s0)
/usr/bin/polaris_iox_postcheck.sh -- gen_context(system_u:object_r:polaris_vconfd_iox_exec_t,s0)
/usr/bin/polaris_iox_download.sh -- gen_context(system_u:object_r:polaris_vconfd_iox_exec_t,s0)
/usr/bin/polaris_iox_remove.sh -- gen_context(system_u:object_r:polaris_vconfd_iox_exec_t,s0)
/usr/bin/polaris_iox_activate.sh -- gen_context(system_u:object_r:polaris_vconfd_iox_exec_t,s0)
/usr/bin/polaris_utd_sigupeate.sh -- gen_context(system_u:object_r:polaris_vconfd_utd_exec_t,s0)
/usr/bin/polaris_geo_db_update.sh -- gen_context(system_u:object_r:polaris_vconfd_geo_exec_t,s0)
/usr/bin/vconfd_script_vping.sh -- gen_context(system_u:object_r:polaris_vconfd_net_exec_t,s0)
/usr/bin/vconfd_script_vnping.sh -- gen_context(system_u:object_r:polaris_vconfd_net_exec_t,s0)
/usr/bin/vconfd_script_vtraceroute.sh -- gen_context(system_u:object_r:polaris_vconfd_net_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscedge.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polaristdlresolve, 1.0);

################################################################################
# TDLresolve policy
################################################################################
gen_require("attribute polaris_extended_domain;"
type polaris_tdlresolve_t;
files_type(polaris_tdlresolve_t)

files_tmp_filetrans(polaris_extended_domain, polaris_tdlresolve_t, dir, "tdlresolve")
# tdl_boottime.sh uses /tmp/tdlresolve_tmp for some temp files
# which are moved into /tmp/tdlresolve latter
files_tmp_filetrans(polaris_extended_domain, polaris_tdlresolve_t, dir, "tdlresolve_tmp")

type polaris_global_service_t;
files_type(polaris_global_service_t);

#############################################################
# rsync policy
#############################################################
gen_require(
    type rsync_t;
    type polaris_btrace_base_t;
)
# tdl_cleanup_epochs.sh uses btrace
allow rsync_t polaris_btrace_base_t:file map;
# rsync invokes tdl_cleanup_epochs.sh as part of this set /proc/[pid]/oom_score_adj is done
allow rsync_t self:capability sys_resource;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristdlresolve.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisqfp, 1.0);

polaris_process_domain_template(qfp)

polaris_cpp_process(polaris_qfp_t)
polaris_cpp_dev_use(polaris_qfp_t)
polaris_btrace_data_manage(polaris_qfp_t)
polaris_crft_data_manage(polaris_qfp_t)
polaris_chasfs_manage(polaris_qfp_t)
polaris_lsmipi_dev_use(polaris_qfp_t)
polaris_persistent_list_dirs(polaris_qfp_t);
# allow for hot add on azure
kernel_read_irq_sysctls(polaris_iodbdd_t)
kernl_rw_irq_sysctls(polaris_iodbdd_t)

# allow read variety of system information from sysfs, as well as write
# into configuration of some pcie devices
# type=AVC msg=audit(1479597040.739:218): avc: denied { write } for pid=30997 comm="ucode_ctl_rx"
# name="config" dev="sysfs" ino=22363 scontext=system_u:system_r:polaris_qfp_t:s0
tcontext=system_u:object_r:sysfs_t:s0 tclass=file
dev_rw_sysfs(polaris_qfp_t)

# allow to send message to /dev/log
logging_send_syslog_msg(polaris_qfp_t)

# allow access to uio devices like /dev/uio0
dev_rw_userio_dev(polaris_qfp_t)

# Platforms with QAT v1.7 need map permission also
# qae device (/dev/icp_adf_ctl)
type polaris_icp_device_t;
dev_node(polaris_icp_device_t)

allow polaris_qfp_t userio_device_t:chr_file map;

# allow to read /proc/meminfo
kernel_read_system_state(polaris_qfp_t)

# qfp FIA (Feature Invocation Array) resides in /dev/shm/cpp_ucode_dram
# Those are set of instructions assembled by cpp control plane and pased
# to qfp to execute.
polaris_cpp_tmpfs_exec(polaris_qfp_t)

# qfp /var/run pid file
type polaris_qfp_var_run_t;
files_pid_file(polaris_qfp_var_run_t)
manage_files_pattern(polaris_qfp_t, polaris_qfp_var_run_t, polaris_qfp_var_run_t)
manage_dirs_pattern(polaris_qfp_t, polaris_qfp_var_run_t, polaris_qfp_var_run_t)
files_pid_filetrans(polaris_qfp_t, polaris_qfp_var_run_t, { file dir })

# mmap /var/run/dpdk/rte/config
allow polaris_qfp_t polaris_qfp_var_run_t:file map:

# qfp memif directory and file
type polaris_qfp_memif_t;
files_tmp_file(polaris_qfp_memif_t);
# qfp memif interface for binos clients in /tmp/memif
files_tmp_filetrans(polaris_qfp_t, polaris_qfp_memif_t, { dir })
# creates /tmp/binos-IOX/memif
files_tmp_filetrans(polaris_qfp_t, polaris_qfp_memif_t, dir, "memif")
polaris_qfp_memif_manage(polaris_qfp_t)
# qfp memif interface for container in /bootflash/SHARED-IOX/memif
polaris_disk_type(polaris_qfp_memif_t)
gen_require(
    type polaris_disk_bootflash_t;
)
filetrans_pattern(polaris_qfp_t, polaris_disk_bootflash_t, polaris_qfp_memif_t, dir, "memif")

# work with /bootflash/SHARED-IOX/memif/memif-dp-svr
polaris_utdl_container_dgram_send(polaris_qfp_t)

# work (create/open/read/write) with hugetlbs files
fs_manage_hugetlbfbs_dirs(polaris_qfp_t)
fs_rw_hugetlbfbs_files(polaris_qfp_t)
gen_require(
    type hugetlbfbs_t;
)
allow polaris_qfp_t hugetlbfbs_t:file create;
# dpdk may unlinks unneeded pages in unmap_unneeded_hugepages function
allow polaris_qfp_t hugetlbfbs_t:file unlink;
allow polaris_qfp_t self:capability { sys_rawio sys_nice sys_admin };
allow polaris_qfp_t self:process setsched;

# is_nic_netmap_capable function, which is used by vnic_cfg_port, needs socket to
# work with interface parameters
allow polaris_qfp_t self:udp_socket create_socket_perms;

ifdef(`crankshaft_family',
polaris_icc_broken_relocations(polaris_qfp_t)
')

# access to /dev/dash_xxx devices on cranshaft platforms
optional_policy(
    polaris_dash_dev_use(polaris_qfp_t)
')

# netmap device (/dev/netmap)
type polaris_netmap_device_t;
dev_node(polaris_netmap_device_t)
polaris_netmap_dev_use(polaris_qfp_t)

# access to /dev/icp_XXX device on crankshaft platforms
optional_policy(
    polaris_icp_dev_use(polaris_qfp_t)
')
# netmap device (/dev/svc_eng_puntNN)
type polaris_sep_device_t;
dev_node(polaris_sep_device_t)

polaris_svc_eng_punt_dev_use(polaris_qfp_t)

# transition and access to /var/log/cdal-tsn-info.log
ifdef(‘tsn_platform’,
    polaris_qfp_log_manage("cdal-tsn-info.log")
’)

# transition and access to /var/log/cdal-tsn-info.log
ifdef(‘blackheart_platform’,
    polaris_qfp_log_manage("cdal-tsn-info.log")
’)

# aventus needs access to /sys/devices/platform/cpn-110-master/cpn-110-master
# for boot configuration
# transition and access to /var/log/cdal-tsn-info.log
ifdef(‘aventus_platform’,
gen_require(
    type syslogd_t;
’)
polaris_qfp_log_manage("cdal-tsn-info.log")
polaris_ggpio_dev_read_write(polaris_qfp_t)
polaris_ggpio_dev_read_write(syslogd_t)
’)

# transition and access to /var/log/cdal-tsn-info.log
ifdef(‘cabo_platform’,
    polaris_qfp_log_manage("cdal-tsn-info.log")
’)

# transition and access to /var/log/cdal-tsn-info.log
ifdef(‘supernova_platform’,
    polaris_qfp_log_manage("cdal-tsn-info.log")
’)

# LOOK AT ME: qfp process links libcrypto.so.1.0.0 which has DT_TEXTREL
# that should be addressed by CSCvj99896, once that is fixed remove below
# under CSCvj99905.
gen_require(
    type lib_t;
’)

allow polaris_qfp_t lib_t:file execmod;

# LOOK AT ME: qfp process on TSN LE has executable stack with GNU_STACK marked RWE
Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 986

# that should be addressed by CSCvk66808, once that is fixed remove below
# under CSCvk66832.
ifdef(`tsn_platform`,
  allow polaris_qfp_t self:process execmem;
')

# lsmpi replacement punt/inject over domain sockets
polaris_pi_uds_manage(polaris_qfp_t)
polaris_iosd_dgram_send(polaris_qfp_t)

# dpdk code reads CPU model specific register (MSR)
dev_read_cpuid(polaris_qfp_t)

# dpdk code in rte_mp_channel_init function creates and works
# with /var/run/dpdk/rte/mp_socket socket
manage_sock_files_pattern(polaris_qfp_t, polaris_qfp_var_run_t, polaris_qfp_var_run_t)

# dpdk code in dev_uev_socket_fd_create creates and work with
# netlink_kobject_uevent_socket socket
# Note: radium with QAT v1.7 requires getattr and setopt
allow polaris_qfp_t self:netlink_kobject_uevent_socket { getattr setopt bind create };

# hal_random32_init calls hw_random32_init and it opens /dev/random
dev_read_rand(polaris_qfp_t)

gen_require(`
    type sysfs_t;
    
')
mmap_files_pattern(polaris_qfp_t, sysfs_t, sysfs_t)

# LOOK AT ME: remove after CSCvs34007 fixed
# qfp runs hidedir hide /bootflash/SHARED-IOX/memif
corecmd_exec_bin(polaris_qfp_t)
corecmd_exec_shell(polaris_qfp_t)
auth_use_nsswitch(polaris_qfp_t)

# CSR & C8KV use infiniband and tun/tap devices for Azure
type polaris_infiniband_device_t;
dev_node(polaris_infiniband_device_t)
polaris_infiniband_dev_use(polaris_qfp_t)

kernel_request_load_module(polaris_qfp_t)
allow polaris_qfp_t self:netlink_rdma_socket { bind create setopt };
allow polaris_qfp_t self:capability { ipc_lock net_admin net_raw };
allow polaris_qfp_t self:netlink_route_socket rw_netlink_socket_perms;
allow polaris_qfp_t self:tun_socket { create relabelfrom relabelto };
corenet_rw_tun_tap_dev(polaris_qfp_t)
# CSR Azure IO model requires read access

```c
    gen_require('type proc_net_t;

    allow polaris_qfp_t proc_net_t file { read };
```

# manage MLX NIC socket files in /var/tmp/net_mlx5*

```c
type polaris_qfp_var_tmp_t;
files_tmp_file(polaris_qfp_var_tmp_t);
files_tmp_filetrans(polaris_qfp_t, polaris_qfp_var_tmp_t, { sock_file });
manage_sock_files_pattern(polaris_qfp_t, polaris_qfp_var_tmp_t, { sock_file });
```

# rm from coreutils-8.30 wants to know filesystem type

```c
    fs_getattr_xattr_fs(polaris_qfp_t)
```

# allow create of dir /bootflash/SHARED-IOX on first install of VM

```c
create_dirs_pattern(polaris_qfp_t, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
```

polaris_cpld_read(polaris_qfp_t, polaris_sysfs_cpld_t, polaris_sysfs_cpld_t)

# tsn needs access to /sys/devices/platform/cpn-110-master/cpn-110-master
# for boot configuration

```c
ifdef('tsn_platform',`
    polaris_ggpio_dev_read_write(polaris_qfp_t)
')
```

# blackheart needs access to /sys/devices/platform/cpn-110-master/cpn-110-master
# for boot configuration

```c
ifdef('blackheart_platform',`
    polaris_ggpio_dev_read_write(polaris_qfp_t)
')
```

# sparrow needs access to /sys/devices/platform/cpn-110-master/cpn-110-master
# Also needs access to cdal-tns-info.log

```c
ifdef('sparrow_platform',`
    polaris_qfp_log_manage("cdal-tns-info.log")
    polaris_ggpio_dev_read_write(polaris_qfp_t)
')
```

# ucode also needs access to ttyUSB4

```c
ifdef('cabo_platform',`
    term_use_usb_ttys(polaris_qfp_t)
')
```

# qfp starts /usr/binos/bin/net_hotremove-vxe.sh
init_read_script_files(polaris_qfp_t)

# access to /dev/dash_xxx devices on cranshaft platforms
optional_policy(
    polaris_htx_dgram_send(polaris_qfp_t)
)

# net_hotremove-vxe.sh that works with /tmp/iodb
polaris_iodb_tmp_manage(polaris_qfp_t)
# net_hotremove-vxe.sh sends signal to iodbd.sh
gen_require(
    type polaris_iodbd_t;
)
allow polaris_qfp_t polaris_iodbd_t:process signal;
# net_hotremove-vxe.sh reads /proc/sys/vm/nr_hugepages
kernel_read_vm_sysctls(polaris_qfp_t)

# long running helper script iodbd.sh
polaris_process_domain_template(iodbd)

# iodbd.sh started by /etc/init.d/binos that runs under initrc_t
gen_require(
    type initrc_t;
)
polaris_iodbd_domtrans(initrc_t)
polaris_boot_tmp_read(polaris_iodbd_t)
polaris_chasfs_manage(polaris_iodbd_t)
polaris_cpld_read(polaris_iodbd_t)
polaris_rmonbifo_tmp_read(polaris_iodbd_t)
auth_use_nsswitch(polaris_iodbd_t)
corecmd_exec_bin(polaris_iodbd_t)

# hot add interfaces virtio/sriov
dev_manage_sysfs_dirs(polaris_iodbd_t)
polaris_sysfs_manage(polaris_iodbd_t)

# write into sysfs file like /sys/devices/pci0000:00/0000:00:03.2/config
dev_rw_sysfs(polaris_iodbd_t)

# read/write /run/dpdk/rte/config
manage_files_pattern(polaris_iodbd_t, polaris_qfp_var_run_t, polaris_qfp_var_run_t)

# lscpi reads /etc/modprobe.d
modutils_read_module_config(polaris_iodbd_t)
# lscpi reads /lib/modules/5.4.40/modules.softdep
files_read_kernel_modules(polaris_iodbd_t)
files_map_kernel_modules(polaris_iodbd_t)

# runs dmidecode
dmidecode_domtrans(polaris_iodbd_t)
# dmidecode when run in this context needs access init stdin/stdout
gen_require("'
    type dmidecode_t;
  ")
init_rw_stream_sockets(dmidecode_t)

# calls ethtool -i intsve0
sysnet_domtrans_ifconfig(polaris_iodbd_t)

# reads /etc/rc.d/init.d/binos_functions-pd-iodb
init_read_script_files(polaris_iodbd_t)

# read /proc/sys/vm/nr_hugepages
kernel_read_vm_sysctls(polaris_iodbd_t)

# cat /sys/class/net/intsvc0/address
dev_read_sysfs(polaris_iodbd_t)

# read /proc/cmdline
kernel_read_system_state(polaris_iodbd_t)

polaris_iodb_tmp_manage(polaris_iodbd_t)

type polaris_iodb_tmp_t;
files_tmp_file(polaris_iodb_tmp_t)

# /tmp/iodb is created by /etc/init.d/binos that runs under initrc_t
gen_require("'
    type initrc_t;
  ")
files_tmp_filetrans(initrc_t, polaris_iodb_tmp_t, dir, "iodb")
polaris_iodb_tmp_manage(initrc_t)

# udev_t can drop entries into /tmp/iodb to process
gen_require("'
    type udev_t;
  ")
polaris_iodb_tmp_manage(udev_t)

# Radium and Thallium need to check rommon version when initializing static
# interface table (access /proc/rmonbifo).
optional_policy("'
    polaris_proc_rmonbifo_read(polaris_qfp_t)"


```c
policy_module(polarisngwctblmgr, 1.0);

gen_require(
    type polaris_ngwc_tbl_mgr_t;
    
    polaris_btrace_data_manage(polaris_ngwc_tbl_mgr_t)
    polaris_crft_data_manage(polaris_ngwc_tbl_mgr_t)
    polaris_chasfs_manage(polaris_ngwc_tbl_mgr_t)
    polaris_tdlresolve_read(polaris_ngwc_tbl_mgr_t)
    polaris_tdlldb_list_dirs(polaris_ngwc_tbl_mgr_t)
    polaris_cpld_read(polaris_ngwc_tbl_mgr_t)
    polaris_lua_read(polaris_ngwc_tbl_mgr_t)
    polaris_flashlib_read(polaris_ngwc_tbl_mgr_t)
    polaris_ripc_sman_ui_serv_connect(polaris_ngwc_tbl_mgr_t)

    allow polaris_ngwc_tbl_mgr_t self:capability dac_override;

    polaris_dyncfg_tmp_read(polaris_ngwc_tbl_mgr_t)

    Found in path(s):
```

No license file was found, but licenses were detected in source scan.

---

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisqfp.te

No license file was found, but licenses were detected in source scan.

---

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscppha.if

No license file was found, but licenses were detected in source scan.

---

March 2017, Victor Kamensky

Copyright (c) 2016-2019 by Cisco Systems, Inc.
All rights reserved

---

March 2017, Victor Kamensky

Copyright (c) 2017-2019 by Cisco Systems, Inc.
All rights reserved

---

## <summary>Polaris cpp_ha Policy Rules.</summary>

---

'}

---

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 990
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisfmanrp file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfmanrp.fc
No license file was found, but licenses were detected in source scan.

dnl
dnl April 2018, Victor Kamensky

dnl Copyright (c) 2018-2019 by Cisco Systems, Inc.

dnl All rights reserved

dnl define(`polaris_ripc_service_server_aux',`dnl
polaris_ripc_$2_bind($3)
polaris_ripc($3)
')

define(`polaris_ripc_service_server_full',`dnl
polaris_ripc_service_server_aux(ripc_label($1), ripc_stem($1), process_label($2))
')

define(`polaris_ripc_service_server',`dnl
ifelse(ripc_type_map($1), `', `polaris_ripc_service_server_full($1, $2, $3, $4, $5))
ripc_type_map_set(ripc_label($1), process_label($2))
')

define(`polaris_ripc_service_client_aux',`dnl
polaris_ripc($3)
polaris_ripc_$2_connect($3)
')

define(`polaris_ripc_service_client',`dnl
polaris_ripc_service_client_aux(ripc_label($1), ripc_stem($1), process_label($2))
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/polaris_ipc_ripc_te.m4
No license file was found, but licenses were detected in source scan.

#  
# August 2017, Victor Kamensky  
#  
# Copyright (c) 2017-2021 by Cisco Systems, Inc.  
# All rights reserved  
#  
/usr/binos/conf/audit_log.sh -- gen_context(system_u:object_r:polaris_audit_log_exec_t,s0)  
/usr/binos/conf/audit_snapshot.sh -- gen_context(system_u:object_r:polaris_audit_log_exec_t,s0)  
/tmp/package_biv_sums -- gen_context(system_u:object_r:polaris_kgv_data_t,s0)  
/usr/bin/code_sign_verify -- gen_context(system_u:object_r:polaris_code_verify_exec_t,s0)  
/usr/sbin/boot_verify_package -- gen_context(system_u:object_r:polaris_code_verify_exec_t,s0)  
/usr/sbin/kgv_update -- gen_context(system_u:object_r:polaris_code_verify_exec_t,s0)  
/dev/shm/sem\sem\updatepcr&d_msg_sem gen_context(system_u:object_r:polaris_code_verify_tmpfs_t,s0)  
  
# /dev/aikido  
/dev/aikido -c gen_context(system_u:object_r:polaris_aikido_device_t,s0)  
/usr/binos/conf/mcp_upgrade_hwprg.sh gen_context(system_u:object_r:polaris_hw_upgrade_exec_t,s0)  
/usr/binos/conf/mcp_upgrade_hwprg_fpga.sh gen_context(system_u:object_r:polaris_hw_upgrade_exec_t,s0)  
/usr/binos/conf/mcp_upgrade_hwprg_cpld.sh gen_context(system_u:object_r:polaris_hw_upgrade_exec_t,s0)  
/usr/binos/conf/mcp_upgrade_hwprg_cmds.sh gen_context(system_u:object_r:polaris_hw_upgrade_exec_t,s0)  
/usr/binos/bin/tam_fw_upgrade gen_context(system_u:object_r:polaris_hw_upgrade_exec_t,s0)  
/usr/binos/conf/mcp_upgrade_rommon.sh gen_context(system_u:object_r:polaris_rom_upgrade_exec_t,s0)  
/usr/binos/conf/mcp_upgrade_rommon_cmds.sh gen_context(system_u:object_r:polaris_rom_upgrade_exec_t,s0)  
/usr/binos/conf/mcp_upgrade_rommon_helper.sh gen_context(system_u:object_r:polaris_rom_upgrade_exec_t,s0)  
/usr/binos/conf/mcp_upgrade_rommon_x86.sh gen_context(system_u:object_r:polaris_rom_upgrade_exec_t,s0)  
/dev/scansta -c gen_context(system_u:object_r:polaris_scansta_device_t,s0)  

Found in path(s):  
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristws.fc  

No license file was found, but licenses were detected in source scan.

#  
# June 2020, Cuiyan Ma  
#  
# Copyright (c) 2020 by Cisco Systems, Inc.  
# All rights reserved  
#  
policy_module(polarisissucompcheck, 1.0);  
polaris_process_domain_template(issu_comp_check)
corecmd_exec_bin(polaris_issu_comp_check_t)
corecmd_exec_shell(polaris_issu_comp_check_t)

polaris_chasfs_manage(polaris_issu_comp_check_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_issu_comp_check_t)

# For reading tracekey from /tmp/tmppub/tracekey_cache/usr/bin/rotee
polaris_btrace_tmppub_read(polaris_issu_comp_check_t)

# For reading /sys/devices/platform/cpld/platform_type
polaris_cpld_read(polaris_issu_comp_check_t)

# For reading /tmp/sw/boot/pkginfo
polaris_boot_tmp_read(polaris_issu_comp_check_t)

# For ls on /tmp/ufs/crashinfo
optional_policy(
    polaris_ncd_tmp_read(polaris_issu_comp_check_t)
)

# work with /tmp files
type polaris_issu_comp_check_tmp_t;
files_tmp_file(polaris_issu_comp_check_tmp_t)
manage_dirs_pattern(polaris_issu_comp_check_t, tmp_t, polaris_issu_comp_check_tmp_t)
manage_files_pattern(polaris_issu_comp_check_t, polaris_issu_comp_check_tmp_t, polaris_issu_comp_check_tmp_t)
files_tmp_filetrans(polaris_issu_comp_check_t, polaris_issu_comp_check_tmp_t, \{ file dir \})

# For using push_using_rsync
polaris_chvrf_domtrans(polaris_issu_comp_check_t)

gen_require(
    type rsync_t;
)
rsync_entry_domtrans(polaris_issu_comp_check_t, rsync_t)
polaris_manage_rsync_tmplog_dir(polaris_issu_comp_check_t)

# rsync inherits issu_comp_check.sh's stdout/stderr fifo files
allow rsync_t polaris_issu_comp_check_t:fifo_file write;

allow polaris_issu_comp_check_t self:capability sys_resource;

# reads /tmp/remote_sw_verinfo.txt
gen_require(
    type rsync_tmp_t;
read_files_pattern(polaris_issu_comp_check_t, rsync_tmp_t, rsync_tmp_t)

# use of errmsg.sh
polaris_script_errmsg_use(polaris_issu_comp_check_t)

# hwutil modifies /sys/bus/i2c/drivers/pca9548/1-0076/reg_control
# TODO: label sysfs so that reg control gets its own label
dev_rw_sysfs(polaris_issu_comp_check_t)

# allow locking of /tmp/sysctrl_i2c.lck
# TODO: this file probably deserves its own label when created by cm_rp
polaris_cm_rp_tmp_manage(polaris_issu_comp_check_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisissucompcheck.te
No license file was found, but licenses were detected in source scan.

#
# April 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris dmi_opdatamgrd Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisdmiopdatamgrd.if
No license file was found, but licenses were detected in source scan.

#
# May 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarispttcd, 1.0);

gen_require(
    type polaris_pttcd_t;
')

polaris_btrace_data_manage(polaris_pttcd_t)
polaris_crft_data_manage(polaris_pttcd_t)
polaris_chasfs_manage(polaris_pttcd_t)
polaris_tdlresolve_read(polaris_pttcd_t)
polaris_tdlldb_list_dirs(polaris_pttcd_t)
polaris_lua_read(polaris_pttcd_t)
polaris_flashlib_read(polaris_pttcd_t)

auth_use_nsswitch(polaris_pttcd_t)
polaris_cpld_read(polaris_pttcd_t)

allow polaris_pttcd_t self:netlink_route_socket r_netlink_socket_perms;

polaris_disk_bootflash_search(polaris_pttcd_t)
polaris_bootflash_manage(polaris_pttcd_t)
polaris_persistent_getattr(polaris_pttcd_t)

type polaris_pttcd_tmp_t;
files_tmp_file(polaris_pttcd_tmp_t)
polaris_systemd_tmpfiles_tmp_filetrans(polaris_pttcd_tmp_t, dir, "interceptor")
gen_require(''
    type polaris_btrace_tmppub_t;
)'
manage_dirs_pattern(polaris_pttcd_t, { polaris_pttcd_tmp_t polaris_btrace_tmppub_t }, polaris_pttcd_tmp_t)
manage_files_pattern(polaris_pttcd_t, { polaris_pttcd_tmp_t polaris_btrace_tmppub_t }, polaris_pttcd_tmp_t)
manage_lnk_files_pattern(polaris_pttcd_t, { polaris_pttcd_tmp_t polaris_btrace_tmppub_t }, polaris_pttcd_tmp_t)

allow polaris_pttcd_t self:tcp_socket create_stream_socket_perms;
allow polaris_pttcd_t self:udp_socket create_socket_perms;

corenets_tcp_bind_generic_node(polaris_pttcd_t)
corenets_tcp_bind_polaris_pttcd_port(polaris_pttcd_t)
corenets_tcp_connect_polaris_pttcd_port(polaris_pttcd_t)
corenets_udp_sendrecv_polaris_pttcd_port(polaris_pttcd_t)

sysnet_read_config(polaris_pttcd_t)

allow polaris_pttcd_t self:capability sys_resource;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispttcd.te
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisrrmmgr, 1.0);
gen_require("
    type polaris_rrm_mgr_t;
")

polaris_btrace_data_manage(polaris_rrm_mgr_t)
polaris_chasfs_manage(polaris_rrm_mgr_t)
polaris_tldresolve_read(polaris_rrm_mgr_t)
polaris_tldldb_list_dirs(polaris_rrm_mgr_t)
polaris_cpld_read(polaris_rrm_mgr_t)
polaris_lua_read(polaris_rrm_mgr_t)
polaris_flashlib_read(polaris_rrm_mgr_t)

polaris_ripc_sman_ui_serv_connect(polaris_rrm_mgr_t)
polaris_db_tldldb_dir_use(polaris_rrm_mgr_t)

# allow to use setrlimit
allow polaris_rrm_mgr_t self:process setrlimit;
allow polaris_rrm_mgr_t self:capability sys_resource;
allow polaris_rrm_mgr_t self:capability dac_override;

# stuff related to vrf support of the socket
polaris_lfts_dev_use(polaris_rrm_mgr_t)
polaris_socketat_nsfs_read(polaris_rrm_mgr_t)

# allow to open udp socket on port 12134
corenet_udp_bind_polaris_rrm_mgr_port(polaris_rrm_mgr_t)
corenet_udp_bind_generic_node(polaris_rrm_mgr_t)
allow polaris_rrm_mgr_t self:udp_socket { create_socket_perms recv_msg send_msg };

corenet_udp_bind_polaris_rrm_clnt_port(polaris_rrm_mgr_t)
polaris_odm_clnt2svr_mqipc_create(polaris_rrm_mgr_t)

# access "/bootflash/dbpersist"
polaris_tldldbpersist_setup(polaris_rrm_mgr_t)

# access /tmp/rp/dldb/persistent-config/ dir and files in this dir
polaris_tmp_tldldb_persist_setup(polaris_rrm_mgr_t)

logging_send_syslog_msg(polaris_rrm_mgr_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisrrmmgr.te
No license file was found, but licenses were detected in source scan.

#
# April 2017, Victor Kamensky
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscyan, 1.0);

# dyncfg_setup.sh runs under cmand label

polaris_process_domain_template(dyncfg)

polaris_btrace_data_manage(polaris_dyncfg_t)
polaris_cpld_read(polaris_dyncfg_t)
polaris_lua_read(polaris_dyncfg_t)
polaris_cpld_dev_use(polaris_dyncfg_t)
polaris_rmonbifo_tmp_read(polaris_dyncfg_t)
polaris_chasfs_read(polaris_dyncfg_t)

# this script works with /tmp/dyncfg files

type polaris_dyncfg_tmp_t;
files_tmp_file(polaris_dyncfg_tmp_t)

files_tmp_file(polaris_dyncfg_tmp_t, polaris_dyncfg_tmp_t, dir, "cyan")
files_tmp_file(polaris_dyncfg_tmp_t, polaris_dyncfg_tmp_t, file)

manage_files_pattern(polaris_dyncfg_t, polaris_dyncfg_tmp_t, polaris_dyncfg_tmp_t)
manage_dirs_pattern(polaris_dyncfg_t, polaris_dyncfg_tmp_t, polaris_dyncfg_tmp_t)
manage_lnk_files_pattern(polaris_dyncfg_t, polaris_dyncfg_tmp_t, polaris_dyncfg_tmp_t)

corecmd_exec_bin(polaris_dyncfg_t)
corecmd_exec_shell(polaris_dyncfg_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_dyncfg_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_dyncfg_t)

# dyncfg_setup calls luajit and luajit needs execute JIT generated code
allow polaris_dyncfg_t self:process execmem:

# allow objstore access
polaris_disk_objstore_read(polaris_dyncfg_t)

type polaris_dyncfg_log_t;
files_tmp_file(polaris_dyncfg_log_t)

gen_require("
attribute polaris_domain;

filetrans_pattern(polaris_domain, polaris_dyncfg_tmp_t, polaris_dyncfg_log_t, file, "cyan.log")
filetrans_pattern(polaris_domain, polaris_dyncfg_tmp_t, polaris_dyncfg_log_t, file, "cyan_runtime.log")
files_tmp_filetrans(polaris_domain, polaris_dyncfg_log_t, file, "cyan.lock")
manage_files_pattern(polaris_domain, polaris_dyncfg_log_t, polaris_dyncfg_tmp_t, polaris_dyncfg_log_t)

polaris_dyncfg_tmp_read(polaris_domain)

# on utah need to get model info
optional_policy(
    polaris_dash_dev_use(polaris_dyncfg_t)
)

#access to /dev/dash_fpga device on fugazi platform
ifdef('fugazi_platform',
    polaris_dash_dev_mcp_use(polaris_dyncfg_t)
)

# allow search and read under /tmp/boot directory
polaris_boot_tmp_read(polaris_dyncfg_t)
logging_send_syslog_msg(polaris_dyncfg_t)

# dyncfg needs access to idprom. Idprom is accessed differently depending on
# platform

# on utah idprom is in quack chip: hw_esg_read_midplane_idprom
# on platforms with idprom in quack chip need access to
# quack device as part of hw_esg_read_midplane_idprom call.
ifdef('crankshaft_family',
    polaris_quack_dev_use(polaris_dyncfg_t)
    )
ifdef('starfleet_platform',
    polaris_quack_dev_use(polaris_dyncfg_t)
    )

# on l1ng idprom is i2c device in sysfs like:
# /sys/devices/pci0000:00/0000:00:1f.3/i2c-0/i2c-1/1-0056/eeprom
# on ultra it is still emulated by i2c driver like:
# /sys/devices/i2c-0/i2c-1/1-0056/eeprom
dev_rw_sysfs(polaris_dyncfg_t)

# on nyquist and l1ng idprom value retrieved by flashlib and needs dac_override
allow polaris_dyncfg_t self:capability dac_override;
polaris_flashlib_read(polaris_dyncfg_t)
# LOOK AT ME on quake even rommon var read operation needs write access
# i.e flashutil -c getvar -N MODEL_NUM does open with O_RDWR
ifdef(`quake_platform',`
polaris_flashlib_write(polaris_dyncfg_t)
')

# In chassis_attrs.lua method THIS.WIRELESS checks whether wireless package is installed
# by opening (why open, not stat) wncmgrp binary.
optional_policy(`
  gen_require(`
    type polaris_wncmgrp_exec_t;
  ')
  read_files_pattern(polaris_dyncfg_t, bin_t, polaris_wncmgrp_exec_t)
')

# lua/cyan/vwlc_chassis_attrs.lua needs to read /bootflash/rommon_vars file on vwlc
ifdef(`wlc_family',`
polaris_bootflash_read(polaris_dyncfg_t)
')

# lua/cyan/vwlc_chassis_attrs.lua needs to read /boot/vcpu_template file on vwlc
ifdef(`wlc_family',`
polaris_disk_varied_read(polaris_dyncfg_t)
')

# on macallan passport SUP card idprom is in act2 chip.
# hw_passport_read_midplane_idprom invoked from cyan_init
# reads /dev/act2 device.
ifdef(`ngwc_family',`
polaris_act2_dev_use(polaris_dyncfg_t)
')

ifdef(`passport_platform',`
# open /dev/ttyS0 console in hw_passport_read_midplane_idprom, invoked by
# cyaninit
term_use_unallocated_ttys(polaris_dyncfg_t)
')

# during wlc subpackage install cyan_init.sh called from
# C9800-Wireless_startup_script.sh script and output redirected
# into some install_tmp file
ifdef(`ngwc_family',`
polaris_install_tmp_log_write(polaris_dyncfg_t)
')

# /dev/aikido access
polaris_aikido_dev_use(polaris_dyncfg_t)
gen_require(
    type rsync_t;
    )

rsync_entry_domtrans(polaris_dyncfg_t, rsync_t)
corenct_tcp_connect_rsync_port(polaris_dyncfg_t)

ifdef(`sumatra_platform,'
# LOOK AT ME: After direct usage of /dev/mem is removed (CSCvw80796)
# /dev/mem
polaris_dev_mem_use(polaris_dyncfg_t)
')

# For Cabo, allow for stronger permissions to access env_var
ifdef(`cabo_platform,'
polaris_proc_rmonbitfo_read(polaris_dyncfg_t)
')

# For Cabo, also allow access to i2c-0
ifdef(`cabo_platform,'
polaris_i2c_use(polaris_dyncfg_t)
')

# /dev/i2c-0 access
ifdef(`petra_platform,'
polaris_i2c_use(polaris_dyncfg_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscyan.te
No license file was found, but licenses were detected in source scan.

#
# August 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisflashcheck, 1.0);

gen_require(
    type polaris_flashcheck_t;
    )

# allow read of /etc/passwd
auth_use_nsswitch(polaris_flashcheck_t)
corecmd_exec_bin(polaris_flashcheck_t)

# allow to read /proc/meminfo
kernel_read_system_state(polaris_flashcheck_t)

# uses pidof
domain_read_all_domains_state(polaris_flashcheck_t)
dev_read_sysfs(polaris_flashcheck_t)

# df on "/" needs fs_t:filesystem getattr
fs_getattr_xattr_fs(polaris_flashcheck_t)

polaris_btrace_data_manage(polaris_flashcheck_t)
polaris_chasfs_manage(polaris_flashcheck_t)
polaris_cpld_read(polaris_flashcheck_t)

polaris_read_debug_conf(polaris_flashcheck_t)
polaris_boot_tmp_read(polaris_flashcheck_t)

logging_send_syslog_msg(polaris_flashcheck_t)

# directly output to /dev/ttyS0
term_use_unallocated_ttys(polaris_flashcheck_t)

polaris_bootflash_read(polaris_flashcheck_t)

allow polaris_flashcheck_t self:capability { sys_resource dac_override };

# pidof needs below
allow polaris_flashcheck_t self:capability sys_ptrace;

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_flashcheck_t)

# access of crashinfo dir for flash_check.sh, it does source of pglobals.sh
# which needs accses to /crashinfo
polaris_disk_crashinfo_getattr(polaris_flashcheck_t)

# this is for NFS access mounted in a dir of ncd context
optional_policy(
        polaris_ned_tmp_read(polaris_flashcheck_t)
    )

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisflashcheck.te

No license file was found, but licenses were detected in source scan.
### <summary>Polaris caf Policy Rules.</summary>

```
interface(polaris_iox_files_read',
    gen_require(
        type polaris_iox_files_t;
        type polaris_disk_bootflash_t;
        type polaris_disk_harddisk_t;
        type polaris_iox_shared_files_t;
        type polaris_iox_alt_hdd_files_t;
    )

    read_files_pattern($1, { polaris_iox_files_t polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_shared_files_t polaris_iox_alt_hdd_files_t }, polaris_iox_files_t)
    list_dirs_pattern($1, { polaris_iox_files_t polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_shared_files_t polaris_iox_alt_hdd_files_t }, polaris_iox_files_t)
    allow $1 polaris_iox_files_t:file map;
)
```

### <summary>Polaris caf Policy Rules.</summary>

```
interface(polaris_iox_files_manage',
```
gen_require(
    type polaris_iox_files_t;
    type polaris_disk_bootflash_t;
    type polaris_disk_harddisk_t;
    type polaris_iox_shared_files_t;
    type polaris_iox_alt_hdd_files_t;
)

manage_files_pattern($1, { polaris_iox_files_t polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_shared_files_t polaris_iox_alt_hdd_files_t }, polaris_iox_files_t)
manage_dirs_pattern($1, { polaris_iox_files_t polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_shared_files_t polaris_iox_alt_hdd_files_t }, polaris_iox_files_t)
manage_lnk_files_pattern($1, { polaris_iox_files_t polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_shared_files_t polaris_iox_alt_hdd_files_t }, polaris_iox_files_t)
allow $1 polaris_iox_files_t:file map;

####################################
## <summary>
##      List /bootflash/iox/ dir or hardisk IOX dir
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_iox_dir_list`,
    gen_require(
        type polaris_iox_files_t;
        type polaris_disk_bootflash_t;
        type polaris_disk_harddisk_t;
        type httpd_var_run_t;
        type polaris_caf_var_run_t;
        type polaris_iox_shared_files_t;
        type polaris_iox_alt_hdd_files_t;
    )

list_dirs_pattern($1, { polaris_iox_files_t polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_shared_files_t polaris_iox_alt_hdd_files_t }, polaris_iox_files_t)
list_dirs_pattern($1, { polaris_iox_files_t polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_shared_files_t polaris_iox_alt_hdd_files_t }, httpd_var_run_t)
list_dirs_pattern($1, { polaris_iox_files_t polaris_disk_bootflash_t polaris_disk_harddisk_t polaris_iox_shared_files_t polaris_iox_alt_hdd_files_t }, polaris_caf_var_run_t)
)
### <summary>
### Search /bootflash/iox/ dir or harddisk IOX
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_iox_dir_search',`
   gen_require(`
       type polaris_iox_files_t;
       type polaris_iox_shared_files_t;
   `)

    search_dirs_pattern($1, polaris_iox_files_t, polaris_iox_files_t)
`)

### <summary>
### Read files like /guestshell/guestshell_set_netns.sh
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_guestshell_files_read',`
   gen_require(`
       type polaris_guestshell_t;
       type polaris_iox_shared_files_t;
   `)

    read_files_pattern($1, { polaris_guestshell_t polaris_iox_shared_files_t }, polaris_guestshell_t)
    read_link_files_pattern($1, { polaris_guestshell_t polaris_iox_shared_files_t }, polaris_guestshell_t)
`)

### <summary>
### Execute files with polaris_guestshell_exec_t type
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
# <rolecap/>
#
interface('polaris_guestshell_exec_files_exec',
    gen_require('type polaris_guestshell_exec_t;
')
    exec_files_pattern($1, polaris_guestshell_exec_t, polaris_guestshell_exec_t)
')

# <summary>
#      Manage /var/run/netns/guestshell files
# </summary>
# <param name="domain">
#      <summary>
#      Domain allowed access.
#      </summary>
# </param>
# <rolebase/>
#
interface('polaris_guestshell_var_run_files_manage',
    gen_require('type polaris_guestshell_var_run_t;
type var_run_t;
')
    manage_files_pattern($1, { polaris_guestshell_var_run_t var_run_t }, polaris_guestshell_var_run_t)
    manage_dirs_pattern($1, { polaris_guestshell_var_run_t var_run_t }, polaris_guestshell_var_run_t)
')

# <summary>
#      Read CAF tmp files
# </summary>
# <param name="domain">
#      <summary>
#      Domain allowed access.
#      </summary>
# </param>
#
interface('polaris_caf_tmp_files_read',
gen_require('type polaris_caf_tmp_files_t;
')
    read_files_pattern($1, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)
    read_lnk_files_pattern($1, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)
    list_dirs_pattern($1, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)
### <summary>
### Manage CAF tmp files
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_caf_tmp_files_manage',`
  manage_files_pattern($1, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)
  manage_dirs_pattern($1, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)
')

### <summary>
### Getattr CAF tmp files
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_caf_tmp_files_getattr',`
  getattr_files_pattern($1, polaris_caf_tmp_files_t, polaris_caf_tmp_files_t)
')

### <summary>
### Read CAF files. Typically at /opt/cisco/caf/
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
#
interface(`polaris_caf_files_read',`
gen_require(
    type polaris_caf_files_t;
)

read_files_pattern($1, polaris_caf_files_t, polaris_caf_files_t)
read_link_files_pattern($1, polaris_caf_files_t, polaris_caf_files_t)
list_dirs_pattern($1, polaris_caf_files_t, polaris_caf_files_t)
)


#######################################
## <summary>
##      Manage .../guestshell/rootfs_mnt/cisco/cisco_cli/
## This files are used to communicate between guestshell container
## iosd, and shell_exec.sh
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <rolebase/>
#
interface(`polaris_caf_var_run_files_manage`,
optional_policy(
    gen_require(
        type polaris_caf_var_run_t;
    )

    manage_files_pattern($1, polaris_caf_var_run_t, polaris_caf_var_run_t)
    manage_dirs_pattern($1, polaris_caf_var_run_t, polaris_caf_var_run_t)
    )
)


#######################################
## <summary>
##      Read /etc/guestshell_rsa_key file
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <rolebase/>
#
interface(`polaris_guestshell_key_read`,
gen_require(
    type etc_t;
    type polaris_guestshell_ssh_key_t;
read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)

read_files_pattern($1, etc_t, polaris_guestshell_ssh_key_t)
manage_files_pattern($1, polaris_iox_alt_hdd_files_t, polaris_iox_alt_hdd_files_t)
manage_dirs_pattern($1, polaris_iox_alt_hdd_files_t, polaris_iox_alt_hdd_files_t)
')
')

######################################
## <summary>
##      Getattr alternate harddisk files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_iox_alt_hdd_getattr',
    gen_require(`
        type polaris_iox_alt_hdd_files_t;
    ')

    allow $1 polaris_iox_alt_hdd_files_t:filesystem getattr;
')

######################################
## <summary>
##      Manage tty device link files. Typically at /dev/
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_caf_tty_lnk_manage',
    gen_require(`
        type polaris_caf_tty_file_t;
    ')

    create_lnk_files_pattern($1, polaris_caf_tty_file_t, polaris_caf_tty_file_t)
    read_lnk_files_pattern($1, polaris_caf_tty_file_t, polaris_caf_tty_file_t)
    delete_lnk_files_pattern($1, polaris_caf_tty_file_t, polaris_caf_tty_file_t)
')

######################################
## <summary>
##      Manage tty device chr files.
## </summary>
## <param name="domain"
## <summary>
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_caf_chr_file_read',
    gen_require(
        type devpts_t;
    ')
)

setattr_chr_files_pattern($1, devpts_t, devpts_t)
read_chr_files_pattern($1, devpts_t, devpts_t)
')

########################################
## <summary>
##	Execute caf in the polaris_caf domain.
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed to transition.
##	</summary>
## </param>
#
interface('polaris_caf_domtrans',
    gen_require(
        type polaris_caf_t, polaris_caf_exec_t;
    ')
)
domtrans_pattern($1, polaris_caf_exec_t, polaris_caf_t)
')

########################################
## <summary>
##      Provide process signal perms.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_caf_proc_signal_perms',
    gen_require(
        type polaris_caf_t;
    ')
)

allow $1 polaris_caf_t:process sigkill;
')

###############################
## <summary>
## Write/read /tmp/ioxss_up file
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
# interface('polaris_ioxss_rp_tmp_manage',
#     gen_require(
#         type polaris_ioxss_rp_tmp_t;
#     )
#     manage_files_pattern($1,[polaris_ioxss_rp_tmp_t ], polaris_ioxss_rp_tmp_t)
#
')

###############################
## <summary>
## Getattr of iosd_portal_app_lipc socket file
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
## <rolebase/>
#
# interface('polaris_iosd_portal_app_lipc_getattr',
#     gen_require(
#         type polaris_iosd_portal_app_lipc_t;
#     )
#     getattr_sock_files_pattern($1, polaris_iosd_portal_app_lipc_t, polaris_iosd_portal_app_lipc_t)
#

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscaf.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
March 2017, Victor Kamensky

Copyright (c) 2017-2020 by Cisco Systems, Inc.
All rights reserved

policy_module(polarisgnmib, 1.0);

  gen_require(
    "type polaris_gnmib_t;"
  )

  polaris_btrace_data_manage(polaris_gnmib_t)
polaris_crft_data_manage(polaris_gnmib_t)
polaris_chasfs_manage(polaris_gnmib_t)
polaris_tdlresolve_read(polaris_gnmib_t)
polaris_tdlldb_list_dirs(polaris_gnmib_t)
polaris_cpld_read(polaris_gnmib_t)
polaris_lua_read(polaris_gnmib_t)
polaris_flashlib_read(polaris_gnmib_t)
polaris_db_tdlldb_dir_use(polaris_gnmib_t)
optional_policy(
  # deals with /dev/shm/confd setup (schema and pid)
  polaris_confid_shm_setup(polaris_gnmib_t)
  # and allow read shared schema
  polaris_confid_shared_schema_read(polaris_gnmib_t)
  # from evconfd_dynamic_load
  polaris_confid_shared_schema_watch(polaris_gnmib_t)
  # read /proc/confd_pid/exec file
  polaris_confid_read(polaris_gnmib_t)
)

allow polaris_gnmib_t self:capability dac_override;

logging_send_syslog_msg(polaris_gnmib_t)

# create ndbutil directory under /var/lock
polaris_confid_ndbutil_create(polaris_gnmib_t)

polaris_ndbutil_lock_template(polaris_gnmib_t, gnmib, ",.l.schema_use.gnmib")

# grpc library through sysconf accesses /sys/devices/system/cpu
# to get number of CPUs
dev_read_sysfs(polaris_gnmib_t)

# gnmib uses multiple (configurable) tcp ports for secure and insecure mode
corenet_tcp_bind_generic_port(polaris_gnmib_t)
allow polaris_gnmib_t self:tcp_socket { shutdown };
corenet_tcp_connect_all_ports(polaris_gnmib_t)

# iosp_token_read_from_file reads /tmp/rp/.iosp_gnmib
polaris_gnmib_token_read(polaris_gnmib_t)

# gnmib creates /var/tmp/gnmib.pid
type polaris_gnmib_var_t;
files_tmp_file(polaris_gnmib_var_t);
files_tmp_filetrans(polaris_gnmib_t, polaris_gnmib_var_t, file, "gnmib.pid");
manage_files_pattern(polaris_gnmib_t, polaris_gnmib_var_t, polaris_gnmib_var_t)
manage_dirs_pattern(polaris_gnmib_t, polaris_gnmib_var_t, polaris_gnmib_var_t)
manage_lnk_files_pattern(polaris_gnmib_t, polaris_gnmib_var_t, polaris_gnmib_var_t)

# read access to /dev/random
dev_read_rand(polaris_gnmib_t)

kernel_read_net_syscts(polaris_gnmib_t)

type polaris_gnmib_gnoi_images_t;
files_type(polaris_gnmib_gnoi_images_t);
polaris_bootflash_filetrans(polaris_gnmib_t, polaris_gnmib_gnoi_images_t, file);
manage_files_pattern(polaris_gnmib_t, polaris_disk_bootflash_t, polaris_gnmib_gnoi_images_t)

# need to execute install engine scripts
polaris_install_engine_domtrans(polaris_gnmib_t)

# need access to shell to execute install scripts
corecmd_exec_shell(polaris_gnmib_t)
corecmd_exec_bin(polaris_gnmib_t)

# install script needs rmonbifo
polaris_rmonbifo_tmp_read(polaris_gnmib_t)

# not sure why this is needed
auth_map_passwd(polaris_gnmib_t)

#DB persistence
polaris_tlddbpersist_setup(polaris_gnmib_t)
polaris_tmp_tlddb_persist_setup(polaris_gnmib_t)

allow polaris_gnmib_t self:capability sys_resource;

# needed to fstat and check space when transferring image for os.proto install rpc
fs_getattr_xattr_fs(polaris_gnmib_t)

# needed by gnmib ui because uipeer heartbeat timer accesses TDL epoch files
polaris_issu_tmp_files_read(polaris_gnmib_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisgnmib.te
No license file was found, but licenses were detected in source scan.

#
# October 2019, Patrick O'Halloran
# # Copyright (c) 2016-2020 by Cisco Systems, Inc.
# # All rights reserved
#

/usr/binos/conf/mcp_crft_request.sh -- gen_context(system_u:object_r:polaris_crft_request_exec_t,s0)

#NGWC - nyquist, edison, bigbang
/mnt/sd3/user/.CRFT(/.*)? gen_context(system_u:object_r:polaris_crft_data_t,s0)
/mnt/sd3/user/.CRFT/[0-9]*(/.*)? gen_context(system_u:object_r:polaris_crft_data_t,s0)
/mnt/sd3/user/.CRFT/archive(/.*)? gen_context(system_u:object_r:polaris_crft_data_t,s0)

#NGWC - macallan, starfleet
/flash1/user/.CRFT(/.*)? gen_context(system_u:object_r:polaris_crft_data_t,s0)
#MCP, QWLC

vol/harddisk/.CRFT(/.*)?
vol/harddisk/.CRFT/[0-9]*(/.*)?
vol/harddisk/.CRFT/archive(/.*)?

#VXE, WLC, CRANKSHAFT, MCP

-bootflash/.CRFT(/.*)?
-bootflash/.CRFT/[0-9]*(/.*)?
-bootflash/.CRFT/archive(/.*)?

#CRANKSHAFT - blackheart, sparrow

flash1/.CRFT(/.*)?
flash1/.CRFT/[0-9]*(/.*)?
flash1/.CRFT/archive(/.*)?

#PETRA - petra

# USER is a reserved selinux keyword - escape it like this

flash10/USE[R]/.CRFT(/.*)?
flash10/USE[R]/.CRFT/[0-9]*(/.*)?
flash10/USE[R]/.CRFT/archive(/.*)?

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscrft.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
# # Copyright (c) 2017-2019 by Cisco Systems, Inc.
# # All rights reserved
#

# polariscmm file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmm.fc
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
# # Copyright (c) 2017-2020 by Cisco Systems, Inc.
# # All rights reserved
#
## <summary>Polaris install Policy Rules.</summary>

########################################
## <summary>
##	Read polaris_sw_data_t, effectively path to read polaris
## base image packages
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed access.
##	</summary>
## </param>
#
interface('polaris_sw_data_read',
  gen_require(
    type polaris_sw_data_t;
    type tmp_t;
  )
  read_files_pattern($1, { tmp_t polaris_sw_data_t }, polaris_sw_data_t)
  read_lnk_files_pattern($1, { tmp_t polaris_sw_data_t }, polaris_sw_data_t)
  list_dirs_pattern($1, { tmp_t polaris_sw_data_t }, polaris_sw_data_t)
  )

########################################
## <summary>
##	Map polaris_sw_data_t, effectively path to map polaris
## base image packages
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed access.
##	</summary>
## </param>
#
interface('polaris_sw_data_map',
  gen_require(
    type polaris_sw_data_t;
  )
  allow $1 polaris_sw_data_t:file map;
  )

########################################
## <summary>
##	Manage polaris_sw_data_t, effectively path to set up polaris
## base image packages house holding
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed access.
##	</summary>
## </param>
#
### <summary>
### Domain allowed access.
### </summary>
### 
#
interface('polaris_sw_data_manage',
  gen_require(''
type polaris_sw_data_t;
    type tmp_t;
  ')
  manage_files_pattern($1, { tmp_t polaris_sw_data_t }, polaris_sw_data_t)
  manage_lnk_files_pattern($1, { tmp_t polaris_sw_data_t }, polaris_sw_data_t)
  manage_dirs_pattern($1, { tmp_t polaris_sw_data_t }, polaris_sw_data_t)
  allow $1 polaris_sw_data_t:dir mounton;
')

########################################################
### <summary>
### Read polaris_patch_data_t, effectively path to read polaris
### smu patch or optional packages
### </summary>
### 
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
#
interface('polaris_patch_data_read',
  gen_require(''
type polaris_patch_data_t;
    type tmp_t;
  ')
  read_files_pattern($1, { tmp_t polaris_patch_data_t }, polaris_patch_data_t)
  read_lnk_files_pattern($1, { tmp_t polaris_patch_data_t }, polaris_patch_data_t)
  list_dirs_pattern($1, { tmp_t polaris_patch_data_t }, polaris_patch_data_t)
')

########################################################
### <summary>
### Manage polaris_patch_data_t, effectively path to set up polaris
### smu patch or optional packages house holding
### </summary>
### 
### <param name="domain">
### <summary>
### Domain allowed access.
### </summary>
### </param>
#
interface('polaris_patch_data_manage',
  gen_require(
    type polaris_patch_data_t;
    type tmp_t;
  )
)
manage_files_pattern($1, [ tmp_t polaris_patch_data_t ], polaris_patch_data_t)
manage_link_files_pattern($1, [ tmp_t polaris_patch_data_t ], polaris_patch_data_t)
manage_dirs_pattern($1, [ tmp_t polaris_patch_data_t ], polaris_patch_data_t)
)

# <summary>
# Watch patch_data directories
# </summary>
# <param name="domain">
# <summary>
# Domain allowed access.
# </summary>
# </param>
#
interface('polaris_patch_data_watch',
  gen_require(
    type polaris_patch_data_t;
  )
  allow $1 polaris_patch_data_t:dir watch;
)

# <summary>
# Write into tmp files created by install_show.sh
# </summary>
# <param name="domain">
# <summary>
# Domain allowed to transition.
# </summary>
# </param>
#
interface('polaris_install_show_tmp_write',
  gen_require(
    type polaris_install_show_tmp_t;
    type tmp_t;
  )
  write_files_pattern($1, [ tmp_t polaris_install_show_tmp_t ], polaris_install_show_tmp_t)
)
## <summary>
## Read tmp files created by install_show.sh
## </summary>
## <param name="domain">
## Domain allowed to transition.
## </param>
#
interface(`polaris_install_show_tmp_read`,
gen_require(`
type polaris_install_show_tmp_t;
    type tmp_t;
')
    read_files_pattern($1, { tmp_t polaris_install_show_tmp_t }, polaris_install_show_tmp_t)
')

######################################
## <summary>
## Manage tmp installer files and directories
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_install_show_tmp_manage`,
gen_require(`
type polaris_install_show_tmp_t;
')
    manage_dirs_pattern($1, polaris_install_show_tmp_t, polaris_install_show_tmp_t)
    manage_files_pattern($1, polaris_install_show_tmp_t, polaris_install_show_tmp_t)
    manage_lnk_files_pattern($1, polaris_install_show_tmp_t, polaris_install_show_tmp_t)
')

#######################################
## <summary>
## Manage /bootflash/.issu_loc_lock files
## TODO: provfunc.sh and hman have reference to /bootflash/ISSU_LOCAL_LOCK_FILE.
## For now, I am keeping manage_dirs_pattern for polaris_disk_bootflash_t.
## Need to re-visit so that callers to this macro do not have write-permission
to all of bootflash..
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
interface('polaris_issu_files_manage', `type polaris_issu_files_t; type polaris_disk_bootflash_t;`
)
    filetrans_pattern($1, polaris_disk_bootflash_t, polaris_issu_files_t, file, ".issu_loc_lock")
    manage_files_pattern($1, polaris_issu_files_t, polaris_issu_files_t)
    manage_dirs_pattern($1, polaris_disk_bootflash_t, polaris_issu_files_t)
')

interface('polaris_issu_tmp_files_manage', `type polaris_issu_tmp_files_t; type tmp_t;`
)
    manage_files_pattern($1, { tmp_t polaris_issu_tmp_files_t }, polaris_issu_tmp_files_t)
    manage_lnk_files_pattern($1, { tmp_t polaris_issu_tmp_files_t }, polaris_issu_tmp_files_t)
    manage_dirs_pattern($1, { tmp_t polaris_issu_tmp_files_t }, polaris_issu_tmp_files_t)
')

interface('polaris_disk_install_manage', `type polaris_disk_install_t;`

### <summary>
### Manage ISSU tmp files, allowing to record and check upgrade progress
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
### <summary>
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
### </summary>
### <param name="domain">
### Domain allowed access.
manage_dirs_pattern($1, polaris_disk_install_t, polaris_disk_install_t)
manage_files_pattern($1, polaris_disk_install_t, polaris_disk_install_t)
manage_lnk_files_pattern($1, polaris_disk_install_t, polaris_disk_install_t)
allow $1 polaris_disk_install_t:dir watch;

#######################################
## <summary>
##      Read any regular file/directory from /bootflash/.install
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_disk_install_read`,
    gen_require(
        type polaris_disk_install_t;
    )
    search_dirs_pattern($1, polaris_disk_install_t, polaris_disk_install_t)
    read_files_pattern($1, polaris_disk_install_t, polaris_disk_install_t)
    read_lnk_files_pattern($1, polaris_disk_install_t, polaris_disk_install_t)
    allow $1 polaris_disk_install_t:dir {watch read};

#######################################
## <summary>
##      Get attributes of any regular file/directory from /bootflash/.install
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_disk_install_fs_getattr`,
    gen_require(
        type polaris_disk_install_t;
    )
    allow $1 polaris_disk_install_t:filesystem getattr;

######################################
## <summary>
##      Manage /tmp/installer files and directories
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_install_tmp_manage',
  gen_require(
    type polaris_install_tmp_t;
      )
  manage_dirs_pattern($1, polaris_install_tmp_t, polaris_install_tmp_t)
  manage_files_pattern($1, polaris_install_tmp_t, polaris_install_tmp_t)
  manage_link_files_pattern($1, polaris_install_tmp_t, polaris_install_tmp_t)
  manage_fifo_files_pattern($1, polaris_install_tmp_t, polaris_install_tmp_t)
  )

######################################
## <summary>
##      Read /tmp/installer files and directories
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_install_tmp_read',
  gen_require(
    type polaris_install_tmp_t;
      )
  list_dirs_pattern($1, polaris_install_tmp_t, polaris_install_tmp_t)
  read_files_pattern($1, polaris_install_tmp_t, polaris_install_tmp_t)
  read_link_files_pattern($1, polaris_install_tmp_t, polaris_install_tmp_t)
  allow $1 polaris_install_tmp_t:dir watch;
  allow $1 polaris_install_tmp_t:file map;
      )

#######################################
## <summary>
##      Execute install related scripts in its own domain.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed to transition.
##      </summary>
## </param>
#
interface(`polaris_install_engine_domtrans',
  gen_require(
    type polaris_install_engine_domtrans_t;
      )
  list_dirs_pattern($1, polaris_install_engine_domtrans_t, polaris_install_engine_domtrans_t)
  read_files_pattern($1, polaris_install_engine_domtrans_t, polaris_install_engine_domtrans_t)
  allow $1 polaris_install_engine_domtrans_t:dir watch;
  allow $1 polaris_install_engine_domtrans_t:file map;
      )
gen_require(`
    type polaris_install_engine_t, polaris_install_engine_exec_t;
`)

domtrans_pattern($1, polaris_install_engine_exec_t, polaris_install_engine_t)
`

#######################################
## <summary>
##     Write into tmp log files created by install engine
## </summary>
## <param name="domain">
##     <summary>
##     Domain allowed to transition.
##     </summary>
## </param>
#
# interface(`polaris_install_tmp_log_write`,`
#    gen_require(`
#        type polaris_install_tmp_log_t;
#`)
#    write_files_pattern($1, polaris_install_tmp_log_t, polaris_install_tmp_log_t)
#`)

#######################################
## <summary>
##      Execute install selinux related scripts in its own domain.
## </summary>
## <param name="domain">
##     <summary>
##      Domain allowed to transition.
##     </summary>
## </param>
#
# interface(`polaris_install_selinux_domtrans`,`
#    gen_require(`
#        type polaris_install_selinux_t, polaris_install_selinux_exec_t;
#`)
#    domtrans_pattern($1, polaris_install_selinux_exec_t, polaris_install_selinux_t)
#`)

#######################################
## <summary>
##      Execute wireless install related scripts in its own domain.
## </summary>
## <param name="domain">
##     <summary>
## Domain allowed to transition.

### </summary>
### </param>
#
interface(`polaris_install_wireless_domtrans',`
  gen_require(`
    type polaris_install_wireless_t, polaris_install_wireless_exec_t;
  `)
)

domtrans_pattern($1, polaris_install_wireless_exec_t, polaris_install_wireless_t)
`

### </summary>
### </param>
#
interface(`polaris_install_show_domtrans',`
  gen_require(`
    type polaris_install_show_t, polaris_install_show_exec_t;
  `)
)

domtrans_pattern($1, polaris_install_show_exec_t, polaris_install_show_t)
`

### Allow the specified domain to manage KGV data files
### I.e under /tmp/pkg_cs_debug created by function verify_pkg
### common scripts file.
### </summary>
### </param>
#
interface(`polaris_pkg_cs_debug_manage',`
  gen_require(`
    type polaris_pkg_cs_debug_t;
  `)
)\nfiles_tmp_filetrans($1, polaris_pkg_cs_debug_t, dir, "pkg_cs_debug")
fs_tmpfs_filetrans($1, polaris_pkg_cs_debug_t, dir, "pkg_cs_debug")
manage_dirs_pattern($1, polaris_pkg_cs_debug_t, polaris_pkg_cs_debug_t)
manage_files_pattern($1, polaris_pkg_cs_debug_t, polaris_pkg_cs_debug_t)
')

******************************************************************************
## <summary>
## Manage /file which is generated on "flock -u file /tmp/sysctrl_i2c.lck"
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_i2c_lock_file_manage',`
gen_require(`
type polaris_i2c_lock_file_t;
')
manage_dirs_pattern($1, polaris_i2c_lock_file_t, polaris_i2c_lock_file_t)
manage_files_pattern($1, polaris_i2c_lock_file_t, polaris_i2c_lock_file_t)
')

******************************************************************************
## <summary>
## write /tmp/installer files and directories
## </summary>
## <param name="domain">
## Domain allowed to transition.
## </param>
#
interface(`polaris_install_tmp_write',`
gen_require(`
type polaris_install_tmp_t;
')
write_files_pattern($1, polaris_install_tmp_t, polaris_install_tmp_t)
allow $1 polaris_install_tmp_t:dir watch;
')

******************************************************************************
## <summary>
## Read/Write /.images files and directories
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface(`polaris_install_images_manage',
    gen_require(
        type polaris_install_images_t;
    )
)

manage_dirs_pattern($1, polaris_install_images_t, polaris_install_images_t)
manage_files_pattern($1, polaris_install_images_t, polaris_install_images_t)

########################################
## <summary>
##	Read ISSU tmp files
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed access.
##	</summary>
## </param>
#
interface(`polaris_issu_tmp_files_read',
    gen_require(
        type polaris_issu_tmp_files_t;
        type tmp_t;
    )
)
list_dirs_pattern($1, { tmp_t polaris_issu_tmp_files_t }, polaris_issu_tmp_files_t)
read_files_pattern($1, { tmp_t polaris_issu_tmp_files_t }, polaris_issu_tmp_files_t)
read_lnk_files_pattern($1, { tmp_t polaris_issu_tmp_files_t }, polaris_issu_tmp_files_t)
allow $1 polaris_issu_tmp_files_t:file map;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisinstall.if
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisodm, 1.0);

gen_require(
    type polaris_odm_t;
)
polaris_btrace_data_manage(polaris_odm_t)
polaris_crft_data_manage(polaris_odm_t)
polaris_chasfs_manage(polaris_odm_t)
polaris_tdlresolve_read(polaris_odm_t)
polaris_tdldb_list_dirs(polaris_odm_t)
polaris_cpld_read(polaris_odm_t)
polaris_lua_read(polaris_odm_t)
polaris_flashlib_read(polaris_odm_t)

polaris_ripc_sman_ui_serv_connect(polaris_odm_t)

polaris_db_tdlldb_dir_use(polaris_odm_t)

# allow setrlimit
allow polaris_odm_t self:capability sys_resource;
allow polaris_odm_t self:process setrlimit;
allow polaris_odm_t self:capability dac_override;

# odm_svr2clnt_data uses subdirectory for channels needs explicit rule
# to allow it. ODM elastic value is 2 now, add more if need in the
# future.
gen_require(''
    type polaris_odm_server2client_data_mqipc_t;
')
polaris_mqipc_create_name_dir(polaris_odm_t, polaris_odm_server2client_data_mqipc_t, odm_svr2clnt_data-b1)
polaris_mqipc_create_name_dir(polaris_odm_t, polaris_odm_server2client_data_mqipc_t, odm_svr2clnt_data-b0)
polaris_mqipc_create_name_dir(polaris_odm_t, polaris_odm_server2client_data_mqipc_t, odm_svr2clnt_data)

logging_send_syslog_msg(polaris_odm_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisodm.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris polarisreflector Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisreflector.if
No license file was found, but licenses were detected in source scan.
policy_module(polariscontainer, 1.0);

# polaris_default_container_t type for not labeled container
polaris_container_domain_template(default)

# polaris_utd_container_t type for snort container
polaris_container_domain_template(utd)
polaris_utd_container(polaris_utd_container_t)

# polaris_utdl_container_t type for snort container, that has
# legacy configuration, need more permissions
polaris_container_domain_template(utdl)
polaris_utd_container(polaris_utdl_container_t)

# manage /tmp/xml/{Utd*} dirs
polaris_vman_log_files_manage(polaris_utdl_container_t)
optional_policy(
    polaris_cedge_xml_tmp_manage(polaris_utdl_container_t)
)

allow polaris_utdl_container_t ramfs_t:file map;
polaris_iox_container_watch(polaris_utdl_container_t)

# work with memif
optional_policy(
    polaris_qfp_dgram_send(polaris_utdl_container_t)
)

# creates /tmp/HTX-IOX/sw-htx-service
optional_policy(
    polaris_htx_iox_tmp_manage(polaris_utdl_container_t)
)
optional_policy(
    polaris_htx_use_client_socket(polaris_utdl_container_t)
)

# allow container to work with /tmp/binos-IOX
optional_policy(
    polaris_qfp_memif_manage(polaris_utdl_container_t)
)
# snort works with /dev/shm/SPO_DAQ_MMAP_OBJ_
fs_exec_tmpfs_files(polaris_utdl_container_t)

# allow container to work with /tmp/xml/* files
optional_policy(
    polaris_vman_tmp_manage(polaris_utdl_container_t)
)

gen_require(''
    type container_file_t;
')
polaris_disk_type(container_file_t)

# legacy utd (snort) container in /etc/init.d/rc.local does unconditional
# mount of ramfs on /tmp/snortlogs
fs_mount_ramfs(polaris_utdl_container_t)
# legacy utd (snort) container in /etc/init.d/rc.local does unconditional
# mount of tmpfs on /dev/shm
fs_mount_tmpfs(polaris_utdl_container_t)
fs_manage_tmpfs_dirs(polaris_utdl_container_t)
fs_manage_tmpfs_files(polaris_utdl_container_t)
fsmanage_tmpfs_symlinks(polaris_utdl_container_t)

# Allow ramfs access to utd container
fs_manage_ramfs_dirs(polaris_utdl_container_t)
fs_manage_ramfs_files(polaris_utdl_container_t)

# Allow link file access from cron to crond
kernel_read_state(polaris_utdl_container_t)

# Allow Snort
allow polaris_utdl_container_t self:packet_socket map;

# polaris_iox_container_t type for generic IOX containers
polaris_container_domain_template(iox)

fs_mount_tmpfs(polaris_iox_container_t)
fs_manage_tmpfs_dirs(polaris_iox_container_t)
fs_manage_tmpfs_files(polaris_iox_container_t)
fs_manage_tmpfs_symlinks(polaris_iox_container_t)
fs_manage_tmpfs_sockets(polaris_iox_container_t)
# fs_manage_tmpfs_fifo_files is missing
gen_require(''
    type tmpfs_t;
')
manage_fifo_files_pattern(polaris_iox_container_t, tmpfs_t, tmpfs_t)
fs_mounon_tmpfs(polaris_iox_container_t)
# container systemd file mmaps tmpfs_t, i.e /usr/lib/systemd/systemd-journald
allow polaris_iox_container_t tmpfs_t:file map;

# container reads ip netns identity <pid>
fs_read_netfs_files(polaris_iox_container_t)

# container systemd does remount of some file systems
gen_require(
    type svirt_sandbox_file_t;
)
allow polaris_iox_container_t svirt_sandbox_file_t:filesystem { remount };

polaris_caf_var_run_files_manage(polaris_iox_container_t)
# permit access to /local core files between host and container
polaris_caf_local_core_files_manage(polaris_iox_container_t)

allow polaris_iox_container_t self:cap_users { chown dac_override dac_read_search fsetid setgid setpcap setuid sys_admin sys_boot };

gen_require(
    type devpts_t;
    type polaris_iox_container_t;
    type container_runtime_t;
    class fifo_file {getattr ioctl read write};
    class chr_file {getattr ioctl open read setattr write};
)

#============= polaris_iox_container_t ==============
allow polaris_iox_container_t container_runtime_t:fifo_file {getattr setattr ioctl open read write};
allow polaris_iox_container_t devpts_t:chr_file {getattr ioctl open read setattr write};

# Normally lipc denials are addressed by code that is generated from TDL.
# If process need to access lipc service it just need to be listed as 'client' of proper TDL service.
# If in this case iox_container process does not have its own TDL proc_def entry,
# therefore we use autogenerated polaris_lipc_iosd_portal_app_write macro/interface.
# Marking this policy optional, so that if platform TDL does not have proper service defined
# then polaris_lipc_iosd_portal_app Write won't be generated, but container policy still would compile.
optional_policy(
    gen_require(
        type polaris_iosd_t;
    )
    polaris_lipc_iosd_portal_app_write(polaris_iox_container_t, polaris_iosd_t)
)

docker_exec_lib(polaris_iox_container_t)
fs_exec_hugetlbfs_files(polaris_iox_container_t)
kernell_read_ring_buffer(polaris_iox_container_t)
dev_read_sysfs(polaris_iox_container_t)
polaris_iox_container_watch(polaris_iox_container_t)

# polaris_sdavc_container_t type for SDAVC container, that has
# legacy configuration, need more permissions

polaris_container_domain_template(sdavc)
polaris_utd_container(polaris_sdavc_container_t)

# manage /tmp/xml/{SDAVC*} dirs
polaris_vman_log_files_manage(polaris_sdavc_container_t)

# legacy SDAVC containder in /etc/init.d/rc.local does unconditional
# mount of tmpfs on /dev/shm
fs_mount_tmpfs(polaris_sdavc_container_t)

# container systemd mounton tmpfs_t & tmpf_st management
fs_mounton_tmpfs(polaris_sdavc_container_t)
fs_manage_tmpfs_dirs(polaris_sdavc_container_t)
fs_manage_tmpfs_files(polaris_sdavc_container_t)
fs_manage_tmpfs_symlinks(polaris_sdavc_container_t)
fs_manage_tmpfs_sockets(polaris_sdavc_container_t)
manage_fifo_files_pattern(polaris_sdavc_container_t, tmpfs_t, tmpfs_t)
# container systemd file mmaps tmpfs_t, i.e /usr/lib/systemd/systemd-journald
allow polaris_sdavc_container_t tmpfs_t:file map;
# Add watch on tmpfs_t/container_t dir/files
polaris_iox_container_watch(polaris_sdavc_container_t)

# map/mount/write hugtlbfs files
gen_require(''
    type hugetlbfs_t;
')
allow polaris_sdavc_container_t hugetlbfs_t:filesystem mount;
allow polaris_sdavc_container_t hugetlbfs_t:file map;
fs_manage_hugetlbfs_dirs(polaris_sdavc_container_t)

# Allow syslog_mod operation on kernel_t
kernel_clear_ring_buffer(polaris_sdavc_container_t)

# Allow tcpdump
allow polaris_sdavc_container_t self:packet_socket map;
allow polaris_utdl_container_t self:packet_socket map;

# add in the docker files labels to polaris_disk_type
gen_require(''
    type container_var_lib_t;
    type container_share_t;
    type container_log_t;
')
polaris_disk_type(container_var_lib_t)
polaris_disk_type(container_share_t)
polaris_disk_type(container_log_t)

# polaris_waas_container_t type for WAAS KVM
polaris_kvm_domain_template(waas)

# Allow rw block files access to /dev/lvm_raid
storage_dontaudit_write_fixed_disk(polaris_waas_container_t)
storage_dontaudit_read_fixed_disk(polaris_waas_container_t)
# Manage hugetlbfs files/dirs
fs_manage_hugetlbfs_dirs(polaris_waas_container_t)
manage_files_pattern(polaris_waas_container_t, hugetlbfs_t, hugetlbfs_t)
fs_exec_hugetlbfs_files(polaris_waas_container_t)

# Allow access of /dev/kvm device
dev_rw_kvm(polaris_waas_container_t)

# Allow domain to search/write to virlogd_t
polaris_vman_virtlog_allow(polaris_waas_container_t)

# Allow for guest-share
gen_require(''
type polaris_iox_shared_files_t;
')
manage_files_pattern(polaris_iox_container_t, polaris_iox_shared_files_t, polaris_iox_shared_files_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscontainer.te
No license file was found, but licenses were detected in source scan.
## Domain allowed to transition.

```c
interface('polaris_pvp_domtrans',
    gen_require(
        type polaris_pvp_t, polaris_pvp_exec_t;
    )
)

domtrans_pattern($1, polaris_pvp_exec_t, polaris_pvp_t)
```

## Manage pvp temporary files and directories in /tmp.

```c
interface('polaris_pvp_manage_tmp_files',
    gen_require(
        type polaris_pvp_tmp_t;
    )
)

manage_files_pattern($1, polaris_pvp_tmp_t, polaris_pvp_tmp_t)
manage_dirs_pattern($1, polaris_pvp_tmp_t, polaris_pvp_tmp_t)
manage_fifo_files_pattern($1, polaris_pvp_tmp_t, polaris_pvp_tmp_t)
```

## Manage pvp process_state files and directories in /tmp/[rp|fp|cc]/pvp/process_state.

```c
interface('polaris_pvp_manage_process_state_files',
    gen_require(
        type polaris_process_state_t;
    )
)
```
manage_files_pattern($1, polaris_process_state_t, polaris_process_state_t)
')

########################################
## <summary>
## Getattr dirs pvp temporary files and directories in /tmp.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_pvp_getattrs_tmp_dirs',
    gen_require(`
        type tmp_t;
        type polaris_pvp_tmp_t;
    ')
)

getattr_dirs_pattern($1, tmp_t, polaris_pvp_tmp_t)
')

########################################
## <summary>
## Read from pvp stdin. Should be granted to scripts spawned
## from pvp with domain transition. pvp stdin (0) points to fifo
## file like /tmp/rp/pvp/work/inot_fifo
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_pvp_stdin_read',
    gen_require(`
        type polaris_pvp_tmp_t;
    ')
)

read_fifo_files_pattern($1, polaris_pvp_tmp_t, polaris_pvp_tmp_t)
')

########################################
## <summary>
## Read pvp temporary files and directories in /tmp.
## </summary>
## <param name="domain">
## </param>
#
# Domain allowed access.
#
# <summary>
# </summary>
# <param name="domain">
# Domain allowed access.
# </param>
#
interface(`polaris_pvp_read_tmp_files',`
  gen_require(
    type tmp_t;
    type polaris_pvp_tmp_t;
  )

  rw_files_pattern($1, { tmp_t polaris_pvp_tmp_t }, polaris_pvp_tmp_t)
')

##########################################
# Read pvp SAI files under
# /tmp/[rp|fp|cc/*]/pvp/sai_process.
# </summary>
# <param name="domain">
# Domain allowed access.
# </param>
#
interface(`polaris_pvp_read_sai_files',`
  gen_require(
    type polaris_pvp_sai_t;
  )

  read_files_pattern($1, polaris_pvp_sai_t, polaris_pvp_sai_t)
  list_dirs_pattern($1, polaris_pvp_sai_t, polaris_pvp_sai_t)
  allow $1 polaris_pvp_sai_t:dir watch;
')

##########################################
# Delete pvp SAI dirs and files under
# /tmp/[rp|fp|cc/*]/pvp/sai_process.
# </summary>
# <param name="domain">
# Domain allowed access.
# </param>
#
interface(`polaris_pvp_delete_sai_files',`
  gen_require(
    type polaris_pvp_sai_t;
  )
allow $1 polaris_pvp_sai_t:dir { remove_name rmdir write };  
allow $1 polaris_pvp_sai_t:file unlink;
')

**************************************************************************
## <summary>
## Watch pvp process_state directories
## </summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## <rolebase/>
#
interface('polaris_process_state_watch',
  gen_require(''
  type polaris_process_state_t;
  ')
  allow $1 polaris_process_state_t:dir watch;
')

Found in path(s):
/* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispvp.if
No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky
#  
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisrmonbifo, 1.0);

**************************************************************************
# Polaris Rmonbifo Driver policy
**************************************************************************

# note polaris_proc_rmonbifo_t is defined in kernel/kernel.te, since genfscon
# statements could be only in base policy

type polaris_rmonbifo_tmp_t;
files_type(polaris_rmonbifo_tmp_t)

polaris_systemd_tmpfiles_tmp_filetrans(polaris_rmonbifo_tmp_t, dir, "rmonbifo")

Found in path(s):
No license file was found, but licenses were detected in source scan.

# February 2020, Victor Kamensky
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#

/bootflash/sdavc(/.*)? gen_context(system_u:object_r:polaris_sdavc_proxy_files_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissdavcproxy.fc
No license file was found, but licenses were detected in source scan.

# August 2017, Shawn Lu
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polarisodm file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisodm.fc
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

/usr/bin/os/conf/auto_upgrade_client.sh -- gen_context(system_u:object_r:polaris_autoupgrade_exec_t,s0)
/usr/bin/os/conf/auto_upgrade_helper.sh -- gen_context(system_u:object_r:polaris_autoupgrade_exec_t,s0)
/usr/bin/os/conf/auto_upgrade_trigger.sh -- gen_context(system_u:object_r:polaris_autoupgrade_exec_t,s0)
/usr/bin/os/conf/auto_upgrade_client_helper.sh -- gen_context(system_u:object_r:polaris_autoupgrade_exec_t,s0)
/tmp/etc/installer    gen_context(system_u:object_r:polaris_autoupgrade_tmp_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisautoupgrade.fc
No license file was found, but licenses were detected in source scan.

#
# October 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

# polariswstatsd file contexts place holder

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswstatsd.fc

No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

/usr/bin/os/conf/bexecute.sh -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/bin/bexecute -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
# still exists for backward compatibility
/tmp/etc/bexecute -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/conf/bexec.sh -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/conf/brelay.sh -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/conf/brelay -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/conf/ioucon.sh -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/conf/runin.sh -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/conf/runin_exec_proc.sh -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/conf/runon.sh -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/conf/in.telnetd.sh -- gen_context(system_u:object_r:polaris_bexecute_exec_t,s0)
/usr/bin/os/conf/brelay_console.sh -- gen_context(system_u:object_r:polaris_bconsole_exec_t,s0)

# mcp_chvrf.sh used by some systemd units to switch vrf (ip namespace)
# of xinetd that drives brelay service
/usr/bin/os/conf/mcp_chvrf.sh -- gen_context(system_u:object_r:polaris_chvrf_exec_t,s0)

# used by "request platform software system shell" CLI
/usr/bin/os/conf/mcp_record_shell.sh -- gen_context(system_u:object_r:polaris_platform_shell_exec_t,s0)
/usr/bin/os/conf/mcp_shell.sh -- gen_context(system_u:object_r:polaris_shell_exec_t,s0)

# used by "sh pla so process memory r0 name iosd maps" CLI
/usr/bin/os/conf/mcp_process_maps.sh -- gen_context(system_u:object_r:polaris_process_maps_exec_t,s0)

# used by "req platform software console attach switch standby R0" CLI
/usr/bin/os/conf/mcp_console_attach.sh -- gen_context(system_u:object_r:polaris_mcp_console_attach_exec_t,s0)
/usr/bin/os/bin/ioucon -- gen_context(system_u:object_r:polaris_ioucon_exec_t,s0)
# ngio_module_session.sh used by "hw-module session" CLI
/usr/binos/conf/ngio_module_session.sh -- gen_context(system_u:object_r:polaris_ngio_module_session_exec_t,s0)

# used by "upgrade rom-monitor capsule primary switch 1 R0" CLI
/usr/binos/conf/cat9k-primary-capsule-upgrade.sh --
gen_context(system_u:object_r:polaris_capsule_upgrade_exec_t,s0)

/usr/binos/conf/cat9k-capsule-upgrade.sh -- gen_context(system_u:object_r:polaris_capsule_upgrade_exec_t,s0)

/mnt/sd3/user/capsule-upgrade.log -- gen_context(system_u:object_r:polaris_capsule_upgrade_log_t,s0)
/usr/binos/conf/mcp_dmesg_service.sh -- gen_context(system_u:object_r:polaris_mcp_dmesg_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbexecute.fc
No license file was found, but licenses were detected in source scan.

#
# August 2017, Shawn Lu
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris wncd Policy Rules.</summary>

###############################
## <summary>
##     Read files under /mnt/images/...these are related to AccessPoint images
## </summary>
## <param name="domain">
##     Domain allowed access.
## </param>
#
# interface('polaris_wlc_ap_images_read',
#    gen_require(
#         type polaris_wlc_ap_images_t;
#     )
#     read_files_pattern($1, polaris_wlc_ap_images_t, polaris_wlc_ap_images_t)
#     read_lnk_files_pattern($1, polaris_wlc_ap_images_t, polaris_wlc_ap_images_t)
#     list_dirs_pattern($1, polaris_wlc_ap_images_t, polaris_wlc_ap_images_t)
#     allow $1 polaris_wlc_ap_images_t:file map;
# )
#
## <summary>
## Manage files under /mnt/images/...these are related to AccessPoint images
## <summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_wlc_ap_images_manage',
    gen_require(
        type polaris_wlc_ap_images_t;
        type mnt_t;
    )
)
manage_files_pattern($1, polaris_wlc_ap_images_t, polaris_wlc_ap_images_t)
manage_lnk_files_pattern($1, polaris_wlc_ap_images_t, polaris_wlc_ap_images_t)
manage_dirs_pattern($1, polaris_wlc_ap_images_t, polaris_wlc_ap_images_t)
# transition when /mnt/images is created
filetrans_pattern($1, mnt_t, polaris_wlc_ap_images_t, dir, "images")
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariswned.if
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris esg_tam_cfg Policy Rules.</summary>

###############################################################
## Getattr dirs pvp temporary directories in /tmp.
## <summary>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
#
interface('polaris_tam_getattrs_tmp_dirs',
    gen_require(
        type tmp_t;
    )
)
type polaris_tam_tmp_t;
)

getattr_dirs_pattern($1, tmp_t, polaris_tam_tmp_t)
')

Found in path(s):
  /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisesgtamcfg.if
No license file was found, but licenses were detected in source scan.

#  # March 2017, Victor Kamensky
#  # Copyright (c) 2016-2019 by Cisco Systems, Inc.
#  # All rights reserved
#
#
## <summary>Polaris MQIPC Policy Rules.</summary>

# Polaris mqipc (infra/mqipc)

## <summary>
##      Make specified domain as one of mqipc types.
## </summary>
## <param name="domain">
##      <summary>
##      The domain serving as polaris_mqipc type
## </summary>
## </param>
#
interface(`polaris_mqipc_type',
    gen_require(
        attribute polaris_mqipc;
    )
    typeattribute $1 polaris_mqipc;
files_type($1)
')

## <summary>
##      Manage mqipc shared memory file in /dev/shm directory
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
## </summary>
## </param>
### <summary>
### Manage mqipc shared memory file in /dev/shm/directory
### where dir is also derived from object parameter used as stem. It
### should be used only in cases where mqipc server operates with
### channel under subdirectory. TDL autogeneration does not pick up
### this so interface call should be added explicitly.
### </summary>
### <param name="domain">
### Domain allowed access.
### </param>
### <param name="mqipc_label">
### Database file label.
### </param>
### <param name="object">
### <summary>
### Mqipc channel file name stem. It is used to derive set of file names
### used by MQIPC.
### </summary>
### </param>
### <param name="mqipc_label">
### Database file label.
### </summary>
### </param>
### <param name="object">
### <summary>
### Mqipc file label.
### </summary>
### </param>
### <param name="domain">
### Domain allowed access.
### </summary>
### </param>
### <param name="mqipc_label">
### Database file label.
### </summary>
### </param>
### <param name="object">
### <summary>
### Mqipc file label.
### </summary>
### </param>
### <param name="mqipc_label">
### Database file label.
### </summary>
### </param>
### <param name="object">
### <summary>
### Mqipc file label.
### </summary>
### </param>
### <param name="mqipc_label">
### Database file label.
### </summary>
### </param>
### <param name="object">
### <summary>
### Mqipc file label.
### </summary>
### </param>
### <param name="mqipc_label">
### Database file label.
### </summary>
### </param>
### <param name="object">
### <summary>
### Mqipc file label.
### </summary>
### </param>
### <param name="mqipc_label">
### Database file label.
### </summary>
### </param>
### <param name="object">
### <summary>
### Mqipc file label.
### </summary>
### </param>
### <param name="mqipc_label">
### Database file label.
### </summary>
### </param>
### <param name="object">
### <summary>
### Mqipc file label.
### </summary>
### </param>
### <param name="mqipc_label">
### Database file label.
### </summary>
### </param>
### <param name="object">
### <summary>
### Mqipc file label.
### </summary>
### </param>
### <param name="mqipc_label">
### Database file label.
### </summary>
### </param>
## Mqipc file name stem. It is used to derive set of file names
## used by MQIPC.
## </summary>
## </param>
#
interface('polaris_mqipc_create_name_dir',`
    gen_require(`
type tmpfs_t;
        type tmp_t;
    `)
    manage_files_pattern($1, { tmpfs_t $2 }, $2)
    allow $1 $2:file map;
    manage_dirs_pattern($1, tmpfs_t, $2)
    type_transition $1 tmpfs_t : { file dir } $2 "mq.-$3";
    manage_fifo_files_pattern($1, { tmp_t $2 }, $2)
    type_transition $1 tmp_t : fifo_file $2 "mq_ene_fifo.-$3";
    type_transition $1 tmp_t : fifo_file $2 "mq_fnf_fifo.-$3";
    fs_getattr_tmpfs($1)
`)

################################################################
## Manage mqipc shared memory file in /dev/shm directory
## </summary>
## </param>
## <param name="domain">
## Domain allowed access.
## </summary>
## </param>
## <param name="mqipc_label">
## Mqipc channel file label.
## </summary>
## </param>
#
interface('polaris_mqipc_use',`
    gen_require(`
type tmpfs_t;
    `)
    read_files_pattern($1, { tmpfs_t $2 }, $2)
    write_files_pattern($1, { tmpfs_t $2 }, $2)
    read_fifo_files_pattern($1, { tmp_t $2 }, $2)
    write_fifo_files_pattern($1, { tmp_t $2 }, $2)
    fs_getattr_tmpfs($1)
    allow $1 $2:file map;
`)

Found in path(s):
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris issu_stack Policy Rules.</summary>

########################################
## <summary>
##      Manage tmp files created by issu_stack.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <rolecap/>
#
# interface('polaris_issu_stack_tmp_manage',
#   gen_require(
#       type polaris_issu_stack_tmp_t;
#   )
#
#    manage_files_pattern($1, polaris_issu_stack_tmp_t, polaris_issu_stack_tmp_t)
#    manage_lnk_files_pattern($1, polaris_issu_stack_tmp_t, polaris_issu_stack_tmp_t)
# )

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarismqipc.if
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris Tmp Boot Policy Rules.</summary>

# /tmp/sw/boot policy

## <summary>Polaris Tmp Boot Policy Rules.</summary>

# /tmp/sw/boot policy

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 1044
## <summary>
##      Read /tmp/sw/boot files. Does not cover rmonbifo file under
## /tmp/sw/boot/rmonbifo. For those use polaris_rmonbifo_tmp_read interface
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_boot_tmp_read`,
  gen_require(
    type polaris_boot_tmp_t;
  ')
  read_files_pattern($1, polaris_boot_tmp_t, polaris_boot_tmp_t)
')

## <summary>
##      Write /tmp/sw/boot files.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_boot_tmp_write`,
  gen_require(
    type polaris_boot_tmp_t;
  ')
  write_files_pattern($1, polaris_boot_tmp_t, polaris_boot_tmp_t)
')

## <summary>
##     Map any polaris_boot_tmp_t file, needed during install.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_boot_tmp_map`,

gen_require(
    type polaris_boot_tmp_t;
    
) allow $1 polaris_boot_tmp_t:file map;
)

########################################################################
## <summary>
##      Manage /tmp/sw/boot files.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_boot_tmp_manage',
    gen_require(
    type polaris_boot_tmp_t;
    
    manage_files_pattern($1, polaris_boot_tmp_t, polaris_boot_tmp_t)
    
)

########################################################################
## Create an polaris_boot_tmp_t object
## in tmpfs_t, tmp_t directories.
##
## <summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <param name="object">
##      <summary>
##      The object class of the object being created.
##      </summary>
## </param>
## <param name="name" optional="true">
##      <summary>
##      The name of the object being created.
##      </summary>
## </param>
#
interface('polaris_boot_tmp_filetrans',
    gen_require(
    type polaris_boot_tmp_t;
fs_tmpfs_filetrans($1, polaris_boot_tmp_t, $2, $3)
files_tmp_filetrans($1, polaris_boot_tmp_t, $2, $3)

########################################################
## <summary>
## Manage partition disk device that contains rommon image.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_rommon_device_manage',`
   gen_require(
      type device_t;
      type polaris_rommon_device_t;
   )
   manage_blk_files_pattern($1, device_t, polaris_rommon_device_t)
   manage_chr_files_pattern($1, device_t, polaris_rommon_device_t)
')

########################################################
## <summary>
## Read partition disk device that contains rommon image.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_rommon_device_read',`
   gen_require(
      type device_t;
      type polaris_rommon_device_t;
   )
   read_blk_files_pattern($1, device_t, polaris_rommon_device_t)
   read_chr_files_pattern($1, device_t, polaris_rommon_device_t)
')

########################################################
## Manage /bootflash/prst_sync/reload_info
## <summary>
##</summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_boot_file_manage',
    gen_require(
        type polaris_boot_file_t;
    ')
    manage_files_pattern($1, polaris_boot_file_t, polaris_boot_file_t)
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisboot.if
No license file was found, but licenses were detected in source scan.

# # February 2020, Victor Kamensky
# # Copyright (c) 2020 by Cisco Systems, Inc.
# # All rights reserved
#

policy_module(polariscedgeTanman, 1.0);

# why /usr/binos/conf/cedge-tanman.sh is not described in TDL?
polaris_process_domain_template(cedge_tanman)

polaris_boot_tmp_read(polaris_cedge_tanman_t)
polaris_chasfs_read(polaris_cedge_tanman_t)
polaris_cpld_read(polaris_cedge_tanman_t)
polaris_read_debug_conf(polaris_cedge_tanman_t)
polaris_use_btrace_fifo(polaris_cedge_tanman_t)

corecmd_exec_bin(polaris_cedge_tanman_t)
corecmd_exec_shell(polaris_cedge_tanman_t)
auth_use_nsswitch(polaris_cedge_tanman_t)

# /tmp/tan handling

type polaris_cedge_tanman_tmp_t;
files_tmp_file(polaris_cedge_tanman_tmp_t)
gen_require(''
    type tmp_t;
')
manage_dirs_pattern(polaris_cedge_tanman_tmp_t, tmp_t, polaris_cedge_tanman_tmp_t)
manage_fifo_files_pattern(polaris_cedge_tanman_tmp_t, polaris_cedge_tanman_tmp_t, polaris_cedge_tanman_tmp_t)
files_tmp_filetrans(polaris_cedge_tanman_tmp_t, polaris_cedge_tanman_tmp_t, dir, "tan")
# calls du -sk /tmp/xml/System
fs_getattr_tmpfs(polaris_cedge_tanman_t)

# work with /tmp/xml
polaris_cedge_xml_tmp_manage(polaris_cedge_tanman_t)

# work with /tmp/tmp
polaris_cedge_tmp_manage(polaris_cedge_tanman_t)

polaris_btrace_tmppub_read(polaris_cedge_tanman_t)

allow polaris_cedge_tanman_t self:capability sys_resource;

# calls nice
allow polaris_cedge_tanman_t self:process setsched;

# runs inotifywait -mrq --format %f: -e moved_to /bootflash/tracelogs
# and removes files in /bootflash/tracelogs
polaris_btrace_persistent_data_manage(polaris_cedge_tanman_t)

# runs ps -eaf
# ps needs access to proc_t
kernel_read_system_state(polaris_cedge_tanman_t)
# ps needs access to state of all domains
domain_read_all_domains_state(polaris_cedge_tanman_t)
# "ps" needs read access to /sys/devices/system/cpu/online
# "ps" needs read access to /proc/uptime
dev_read_sysfs(polaris_cedge_tanman_t)

# watch over /bootflash/tracelogs
polaris_btrace_data_watch(polaris_cedge_tanman_t)

# watches over /tmp for /tmp/booted appearence
gen_require(`
        type tmp_t;
    `)
allow polaris_cedge_tanman_t tmp_t:dir watch;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscedgetanman.te
No license file was found, but licenses were detected in source scan.

#
# Aug 2020, Sridhar
#
# Copyright (c) 2020-2021 by Cisco Systems, Inc.
# All rights reserved
## <summary>Polaris tlscd process Policy Rules.</summary>

Allow the specified domain to manage UDS socket files. I.e /tmp/tlscd/

### <param name="domain">
Domain allowed access.

```plaintext
interface('polaris_tlscd_uds_manage',
    gen_require(
        type polaris_tlscd_uds_t;
    )
)

manage_sock_files_pattern($1, polaris_tlscd_uds_t, polaris_tlscd_uds_t)
```

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristlscd.if

No license file was found, but licenses were detected in source scan.

```
dnl dnl Copyright (c) 2020 by Cisco Systems, Inc.
dnl All rights reserved
dnl dnl Same as Nyquist
dnl dnl Nyquist Platform Max Bay Limits
dnl max_bay_map_set(`rp', `per_bay', 0)
dnl max_bay_map_set(`cc', `per_bay', 0)
dnl max_bay_map_set(`fp', `per_bay', 0)

max_bay_map_set(`rp', `elastic', BPROC_ODM, 0)
max_bay_map_set(`cc', `elastic', BPROC_ODM, 0)
max_bay_map_set(`fp', `elastic', BPROC_ODM, 0)

max_bay_map_set(`rp', `elastic', BPROC_WNCD, 0)
max_bay_map_set(`cc', `elastic', BPROC_WNCD, 0)
max_bay_map_set(`fp', `elastic', BPROC_WNCD, 0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/msmaps.m4
Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6  1051

No license file was found, but licenses were detected in source scan.

# September 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris polarisunconfined Policy Rules.</summary>
ifdef(`polaris_unconfined_conditional',`
    polaris_domain_storage_unconfined_type($1)

    tunable_policy(`polaris_unconfined_all',`
        polaris_unconfined_domain($1)
    )
')
#implicitly confined domain being made permissive
permissive $1;
')

########################################
## <summary>
##	Mark iosd domain unconfined, if polaris_iosd_unconfined
## build macro is defined. Or if polaris_iosd_unconfined_conditional
## macro is defined make domain unconfined only if
## polaris_unconfined_iosd SELinux boolean is set on.
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed access.
##	</summary>
## </param>
#
interface(`polaris_iosd_maybe_unconfined',`
    ifdef(`polaris_iosd_unconfined',`
        unconfined_domain($1)
    )
    ifdef(`polaris_iosd_unconfined_conditional',`
        polaris_domain_storage_unconfined_type($1)
        tunable_policy(`polaris_unconfined_iosd',`
            polaris_unconfined_domain($1)
        )
    )
')

########################################
## <summary>
##	Unconfined access to kernel module resources.
## Like kernel_unconfined but without typeattribute use.
## </summary>
## <param name="domain">
##	<summary>
## Domain allowed access.
### <summary>
### </summary>
### </param>
#
interface('polaris_kernel_unconfined',`
gen_require('`
attribute proc_type;
    attribute sysctl_type;
    type kernel_t;
    type unlabeled_t;
    type proc_kcore_t;
    type proc_kmsg_t;
`')

allow $1 { proc_type - proc_kcore_t - proc_kmsg_t }:{ file } ~entrypoint;
allow $1 { proc_type - proc_kcore_t - proc_kmsg_t}:{ dir lnk_file } *;

allow $1 sysctl_type:{ file } ~entrypoint;
allow $1 sysctl_type:{ dir lnk_file } *;

allow $1 kernel_t:system *;

allow $1 unlabeled_t:{ dir lnk_file sock_file fifo_file chr_file blk_file } *;
allow $1 unlabeled_t:file ~entrypoint;
allow $1 unlabeled_t:filesystem *;
allow $1 unlabeled_t:association *;
allow $1 unlabeled_t:packet *;
allow $1 unlabeled_t:process ~{ ptrace transition dyntransition execmem execstack execcheap }; 

# LOOK AT ME
# kernel_load_module($1)
`)

########################################
## <summary>
## Unconfined access to network objects.
## Like corenet_unconfined but without typeattribute use.
## </summary>
## <param name="domain">
## </param>
#
interface('polaris_corenet_unconfined',`
gen_require('`
    attribute node_type;
    attribute netif_type;
allow $1 node_type:node *
allow $1 netif_type:netif *
allow $1 packet_type:packet *
allow $1 port_type: dccp_socket { send_msg recv_msg name_connect }
allow $1 port_type: tcp_socket { send_msg recv_msg name_connect }
allow $1 port_type: udp_socket { send_msg recv_msg }

# Bind to any network address.
allow $1 port_type: { dccp_socket tcp_socket udp_socket rawip_socket } name_bind;
allow $1 node_type: { dccp_socket tcp_socket udp_socket rawip_socket } node_bind;


########################################
## <summary>
##	Unconfined access to devices.
## Like dev_unconfined but without typeattribute use.
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed access.
##	</summary>
## </param>
#
interface(`polaris_dev_unconfined',`

gen_require(`
attribute device_node;

type memory_device_t;

type mtrr_device_t;

allow $1 self: capability sys_rawio;
allow $1 [ device_node - memory_device_t ] :: { blk_file lnk_file } *
allow $1 [ device_node - memory_device_t ] :: { file chr_file } ~ { execmod entrypoint }
allow $1 mtrr_device_t::file ~ { execmod entrypoint }
development $1

)

########################################
## <summary>
##	Unconfined access to domains.
## Like domain_unconfined but without typeattribute use.
interface('polaris_domain_unconfined',
        gen_require(''
            attribute domain;
        ')

        # Use/sendto/connectto sockets created by any domain.
        allow $1 domain: { socket_class_set socket key_socket } *
        allow $1 domain:system all_system_perms;
        # Use descriptors and pipes created by any domain.
        allow $1 domain:fd use;
        allow $1 domain:fifo_file rw_file_perms;
        allow $1 $1:dbus send_msg;

        # Act upon any other process.
        allow $1 domain:process ~ { ptrace transition dyntransition execmem execstack execcheap setcurrent }
        allow $1 domain:process ptrace;

        # Create/access any System V IPC objects.
        allow $1 domain: { sem msgq shm } *
        allow $1 domain:msg { send receive }

        # For /proc/pid
        allow $1 domain:dir list_dir_perms;
        allow $1 domain:file rw_file_perms;
        allow $1 domain:link_file { read_link_file_perms ioctl lock }

        # act on all domains keys
        allow $1 domain:key *

        # pass constraints
        # typeattribute $1 can_change_object_identity;
        # typeattribute $1 set_curr_context;
        # typeattribute $1 process_uncond_exempt;

        # mcs_process_set_categories($1)

        # userdom_filetrans_home_content($1)
)
## <summary>
## Unconfined access to files.
## Like files_unconfined but without typeattribute use.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>

```
interface('polaris_files_unconfined',
    gen_require('attribute file_type;
type shadow_t;
')

allow $1 { file_type - shadow_t }:{ file chr_file } ~{ execmod entrypoint relabelto }; 
allow $1 file_type:{ dir lnk_file sock_file fifo_file blk_file } *;
allow $1 file_type:service *;

# Mount/unmount any filesystem with the context= option.
allow $1 file_type:filesystem all_filesystem_perms;
```

## <summary>
## Unconfined access to filesystems
## Like fs_unconfined but without typeattribute use.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>

```
interface('polaris_fs_unconfined',
    gen_require('attribute filesystem_type;
')

allow $1 filesystem_type:filesystem all_filesystem_perms;
```

# Create/access other files. fs_type is to pick up various
# pseudo filesystem types that are applied to both the filesystem
# and its files.
allow $1 filesystem_type:{ file } ~entrypoint;
allow $1 filesystem_type:{ dir lnk_file sock_file fifo_file chr_file blk_file } *;
'

****************************************************
## <summary>
## Unconfined access to the SELinux kernel security server.
## Like selinux_unconfined but without typeattribute use.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_selinux_unconfined',
gen_require(`
        attribute boolean_type;
        type security_t;
        type secure_mode_policyload_t;
    )
#
    # use SELinuxfs
    allow $1 security_t:dir list_dir_perms;
    allow $1 security_t:file rw_file_perms;
    allow $1 boolean_type:file read_file_perms;
    allow $1 { boolean_type -secure_mode_policyload_t }:file write_file_perms;

    # Access the security API.
    allow $1 security_t:security ~{ load_policy setenforce setbool setsecparam };’
}

ifdef(`distro_rhel4',
        # needed for systems without audit support
        auditallow $1 security_t:security setbool;
    )

#selinux_set_all_booleans($1)
#selinux_load_policy($1)
#selinux_set_parameters($1)
#selinux_set_enforce_mode($1)
')

****************************************************
## <summary>
## Make the specified domain unconfined.
## <summary>
## <param name="domain">
## Domain to make unconfined.
## </summary>
## </param>

# interface('polaris_unconfined_domain',
  
gen_require('  
class dbus all_dbus_perms;
  class nscd all_nscd_perms;
  class passwd all_passwd_perms;
  )
  
# Use any Linux capability.

  allow $1 self:capability ~{ sys_module };
  allow $1 self:capability2 ~{ mac_admin mac_override };
  allow $1 self:fifo_file { manage_fifo_file_perms relabelfrom relabelto };

  # Transition to myself, to make get_ordered_context_list happy.
  allow $1 self:process { dyntransition transition };

  # Write access is for setting attributes under /proc/self/attr.
  allow $1 self:file rw_file_perms;
  allow $1 self:dir rw_dir_perms;

  # Userland object managers
  allow $1 self:nscd all_nscd_perms;
  allow $1 self:dbus all_dbus_perms;
  allow $1 self:passwd all_passwd_perms;
  allow $1 self:association all_association_perms;
  allow $1 self:socket_class_set create_socket_perms;

  polaris_kernel_unconfined($1)
  polaris_corenet_unconfined($1)
  polaris_dev_unconfined($1)
  polaris_domain_unconfined($1)
  polaris_files_unconfined($1)
  polaris_fs_unconfined($1)
  polaris_selinux_unconfined($1)

  systemd_config_all_services($1)

    # in unconfined_domain_noaudit its under not deny_execmem
    allow $1 self:process execmem;

#domain_mmap_low($1)
#ubac_process_exempt($1)
#
#optional_policy(`
#auth_unconfined($1)
#`)
#
#optional_policy(`
## Communicate via dbusd.
#dbus_system_bus_unconfined($1)
#dbus_unconfined($1)
#`)
#
#optional_policy(`
#ipsec_setcontext_default_spd($1)
#ipsec_match_default_spd($1)
#`)
#
#optional_policy(`
#nscl_unconfined($1)
#`)
#
#optional_policy(`
#seutil_create_bin_policy($1)
#seutil_relabelto_bin_policy($1)
#`)
#
#optional_policy(`
#storage_unconfined($1)
#`)
#
#optional_policy(`
#xserver_unconfined($1)
#`)
`)

#<summary>
## Make the specified domain able to work with cpp /tmp/cpp_ifdev_rep and
## /tmp/cpp_ifdev_req pipe files.
##</summary>
#<param name="type">
## Domain allowed access.
##</param>
#interface(`polaris_unconfined_service_fifo_file_manage`,

gen_require(
    type unconfined_service_t;
)

manage_fifo_files_pattern($1, unconfined_service_t, unconfined_service_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisunconfined.if
No license file was found, but licenses were detected in source scan.

# # March 2019, Shikhar Dogra
# # Copyright (c) 2019-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarisfmancc, 1.0);

gen_require(
    type polaris_fman_cc_t;
)

polaris_btrace_data_manage(polaris_fman_cc_t)
polaris_crft_data_manage(polaris_fman_cc_t)
polaris_chasfs_manage(polaris_fman_cc_t)
polaris_tdlresolve_read(polaris_fman_cc_t)
polaris_tdldb_list_dirs(polaris_fman_cc_t)
polaris_cpld_read(polaris_fman_cc_t)
polaris_lua_read(polaris_fman_cc_t)
polaris_flashlib_read(polaris_fman_cc_t)
polaris_cpld_dev_use(polaris_fman_cc_t)

# allow to send message to /dev/log
logging_send_syslog_msg(polaris_fman_cc_t)

# ISR Nightwatch module accesses libraries compiled with icc
polaris_icc_broken_relocations(polaris_fman_cc_t)

# cpp bleeds into switching platforms through fman_fp and fed
# apparently even on nyquist fed creates /tmp/cpp_anon_db
polaris_cpp_process(polaris_fman_cc_t)
polaris_cpp_tmp_files_use(polaris_fman_cc_t)

type polaris_iosd_fmanrp_mqipc_t;
polaris_mqipc_type(polaris_iosd_fmanrp_mqipc_t)
polaris_mqipc_create_name(polaris_fman_cc_t, polaris_iosd_fmanrp_mqipc_t, iosd-thr-fmanrp-R0:0)
polaris_mqipc_create_name(polaris_fman_cc_t, polaris_iosd_fmanrp_mqipc_t, iosd-thr-fmanrp-R0:0-cc0)
polaris_mqipc_create_name(polaris_fman_cc_t, polaris_iosd_fmanrp_mqipc_t, iosd-thr-fmanrp-R0:0-cc1)
polaris_mqipc_create_name(polaris_fman_cc_t, polaris_iosd_fmanrp_mqipc_t, iosd-thr-fmanrp-R0:0-cc2)
polaris_mqipc_create_name(polaris_fman_cc_t, polaris_iosd_fmanrp_mqipc_t, iosd-thr-fmanrp-R0:0-cc3)
polaris_mqipc_create_name(polaris_fman_cc_t, polaris_iosd_fmanrp_mqipc_t, iosd-thr-fmanrp-R0:0-cc4)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfmancc.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
#
### <summary>Polaris polarispsvp Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispsvp.if
No license file was found, but licenses were detected in source scan.

dnl
dnl May 2020, Swati Kumari
dnl
dnl Copyright (c) 2018-2020 by Cisco Systems, Inc.
dnl All rights reserved
dnl
dnl rpx86 Platform Max Bay Limits
max_bay_map_set(`rp', `per_bay', 0)
max_bay_map_set(`cc', `per_bay', 5)
max_bay_map_set(`fp', `per_bay', 2)

min_bay_ripc_map_set(`rp', `per_bay', 0)
min_bay_ripc_map_set(`cc', `per_bay', 1)
min_bay_ripc_map_set(`fp', `per_bay', 0)

max_bay_ripc_map_set(`rp', `per_bay', 2)
max_bay_ripc_map_set(`cc', `per_bay', 6)
max_bay_ripc_map_set(`fp', `per_bay', 2)

min_bay_ripc_map_set(`rp', `global', 0)
min_bay_ripc_map_set(`cc', `global', 1)
min_bay_ripc_map_set(`fp', `global', 0)

max_bay_ripc_map_set(`rp', `global', 2)
max_bay_ripc_map_set("cc", `global', 6)
max_bay_ripc_map_set("fp", `global', 2)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/m4/rpx86maps.m4
No license file was found, but licenses were detected in source scan.

#
# September 2017, Victor Kamensky
#
# Copyright (c) 2017-2020 by Cisco Systems, Inc.
# All rights reserved
#
#/tmp/tmppub(/.*)? gen_context(system_u:object_r:polaris_btrace_tmppub_t,s0)

# btrace utility to rotate logs
/usr/binos/bin/btman_rotate_immediate -- gen_context(system_u:object_r:polaris_btman_exec_t,s0)

# btrace utility to dump meta data
/usr/binos/bin/dump_btrace_meta -- gen_context(system_u:object_r:polaris_btman_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisbtman.fc
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#
#policy_module(polarisnvram, 1.0);

########################################################################
# NVRAM
########################################################################

ifdef(`ngwc_family',`
# suppose that in edison case nvram is not in partition
type polaris_nvram_file_t;
files_type(polaris_nvram_file_t)
# allow nvram file reside on persistent storage
polaris_pfile_type(polaris_nvram_file_t)
')

ifdef(`blackheart_platform',`


gen_require(
    type polaris_nvram_file_t;
    type polaris_iosd_t;
    )
files_type(polaris_nvram_file_t)
# allow nvram file reside on persistent storage
polaris_pfile_type(polaris_nvram_file_t)
allow polaris_iosd_t polaris_nvram_file_t:filesystem getattr;
)

ifdef(‘sparrow_platform’,
gen_require(
    type polaris_nvram_file_t;
    type polaris_iosd_t;
    )
files_type(polaris_nvram_file_t)
# allow nvram file reside on persistent storage
polaris_pfile_type(polaris_nvram_file_t)
allow polaris_iosd_t polaris_nvram_file_t:filesystem getattr;
)

ifdef(‘aventus_platform’,
gen_require(
    type polaris_nvram_file_t;
    type polaris_iosd_t;
    )
files_type(polaris_nvram_file_t)
# allow nvram file reside on persistent storage
polaris_pfile_type(polaris_nvram_file_t)
allow polaris_iosd_t polaris_nvram_file_t:filesystem getattr;
)

ifdef(‘cabo_platform’,
gen_require(
    type polaris_nvram_file_t;
    type polaris_iosd_t;
    )
files_type(polaris_nvram_file_t)
# allow nvram file reside on persistent storage
polaris_pfile_type(polaris_nvram_file_t)
allow polaris_iosd_t polaris_nvram_file_t:filesystem getattr;
)

ifdef(‘petra_platform’,
type polaris_nvram_file_t;
files_type(polaris_nvram_file_t)
# suppose that in edison case nvram is not in partition
gen_require(“}
type polaris_iosd_t;
')
# allow nvram file reside on persistent storage
polaris_pfile_type(polaris_nvram_file_t)
allow polaris_iosd_t polaris_nvram_file_t:filesystem getattr;
')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisnvram.te
No license file was found, but licenses were detected in source scan.

#
# February 2020, Victor Kamensky
#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved
#
#
## <summary>Polaris exp Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscxp.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2021 by Cisco Systems, Inc.
# All rights reserved
#
#
policy_module(polarischasfs, 1.0);

########################################################################
# Chasfs policy
########################################################################
gen_require(`
      attribute domain;
')

type polaris_chasfs_t;
files_type(polaris_chasfs_t)

files_tmp_filetrans(domain, polaris_chasfs_t, dir, "chassis")
files_tmp_filetrans(domain, polaris_chasfs_t, lnk_file, "chasfs")
# LOOK AT ME: on ultra /tmp/cc/chasfs is created as directory, but
# on other platforms it is symbolic to /tmp/chassis/local/cc/chasfs
# as it happens for rp and fp. Would it be better to fix ultra
files_tmp_filetrans(domain, polaris_chasfs_t, dir, "chasfs")

# cpld-symlink.service, creates /tmp/chassis while /tmp is
# still tmpfs_t, ie before systemd-tmpfiles runs and had a
# chance to set tmp_t label on /tmp
gen_require('type initrc_t;
')
fs_tmpfs_filetrans(initrc_t, polaris_chasfs_t, dir, "chassis")

init_script_tmp_filetrans(domain, polaris_chasfs_t, dir, "chasfs")

polaris_process_domain_template(chasync)
corecmd_exec_bin(polaris_chasync_t)

# allow read of /etc/group and /etc/passwd
auth_use_nsswitch(polaris_chasync_t)
polaris_btrace_data_manage(polaris_chasync_t)
polaris_chasfs_manage(polaris_chasync_t)
polaris_cpld_read(polaris_chasync_t)
polaris_boot_tmp_read(polaris_chasync_t)
polaris_read_debug_conf(polaris_chasync_t)
polaris_rmonbifo_tmp_read(polaris_chasync_t)
polaris_proc_rmonbifo_read(polaris_chasync_t)
polaris_disk_bootflash_read_lnk(polaris_chasync_t)
polaris_disk_harddisk_read_lnk(polaris_chasync_t)

libs_exec_ld_so(polaris_chasync_t)

allow polaris_chasync_t self:capability sys_resource;
allow polaris_chasync_t self:process setpgid;

# access of crashinfo dir for the domain
polaris_disk_crashinfo_getattr(polaris_chasync_t)

# allow access of /tmp/rp/chasync for the polaris_chasync_t domain to
# create/write/rdirs/files with domain specific context
type polaris_chasync_tmp_t;
files_type(polaris_chasync_tmp_t)
files_tmp_file(polaris_chasync_tmp_t)
files_tmp_filetrans(polaris_chasync_t, polaris_chasync_tmp_t, dir, "chasync")
manage_files_pattern(polaris_chasync_t, polaris_chasync_tmp_t, polaris_chasync_tmp_t)
manage_dirs_pattern(polaris_chasync_t, polaris_chasync_tmp_t, polaris_chasync_tmp_t)
manage_fifo_files_pattern(polaris_chasync_t, polaris_chasync_tmp_t, polaris_chasync_tmp_t)

# allow creation/access of temporary files created by chasync.sh like
# /tmp/sh-thd-1499428203 etc
files_tmp_filetrans(polaris_chasync_t, polaris_chasync_tmp_t, file)
manage_files_pattern(polaris_chasync_t, polaris_chasync_tmp_t, polaris_chasync_tmp_t)

fs_getattr_tmpfs(polaris_chasync_t)

# access of flash util for the domain
polaris_flashlib_read(polaris_chasync_t)

# read /proc/cmdline
kernel_read_system_state(polaris_chasync_t)

gen_require(
    type rsync_t;
    type init_t;
    type rsync_tmp_t;
')
rsync_entry_domtrans(polaris_chasync_t, rsync_t)
allow rsync_t polaris_chasync_t:process sigchld;
# file descriptor leak when rsync is called
allow rsync_t init_t:unix_stream_socket ioctl;

# upon exec rsync inherits chasync's stdout/stderr fifo files
allow rsync_t polaris_chasync_t:fifo_file { getattr write };
# in chasync_prepost_rsync.sh, CHASYNC_PID_DIR (rsync pid files) is deleted by rsync
fs_getattr_tmpfs(rsync_t)

# allow file:map for rsync_tmp_t
allow rsync_t rsync_tmp_t:file map;
dev_getattr_generic_blk_files(rsync_t)
deve_getattr_loop_control(rsync_t)
# need access to /usr/bin/mount
mount_entry_type(rsync_t)
# need access to dev/sda1
storage_getattr_fixed_disk_dev(rsync_t)
ifdef(`ngwc_family',`

#Read and write RPC sysctls
kernel_rw_rpc_sysctls(rsync_t)
mount_domtrans(rsync_t)
fstools_domtrans(rsync_t)
# Create/read/write on fixed device disk nodes
storage_manage_fixed_disk(rsync_t)
# stat -f -L -c %T /mnt/usb0
polaris_getattr_removable(rsync_t)
storage_filetrans_all_named_dev(rsync_t)
')

#============= polaris_dyncfg ==============
polaris_dyncfg_tmp_read(rsync_t)

#============= polaris_chasync_t ==============
polaris_btrace_persistent_data_search(polaris_chasync_t)
# chasync.sh code executes mv command
allow polaris_chasync_t self:process { setfscreate ; }
# chasync.sh code executes ping command to check if ping works before trying rsync for the first time
netutils_domtrans_ping(polaris_chasync_t)

# chasync.sh code in wlc saves logs during cleanup to /var/log/chasync
type polaris_chasync_log_t;
logging_log_file(polaris_chasync_log_t)
manage_files_pattern(polaris_chasync_t, polaris_chasync_log_t, polaris_chasync_log_t)
manage_dirs_pattern(polaris_chasync_t, polaris_chasync_log_t, polaris_chasync_log_t)
logging_log_filetrans(polaris_chasync_t, polaris_chasync_log_t, dir, "chasync")

# chasfs_boottime script
polaris_process_domain_template(chasfs_boottime)
unconfined_domain(polaris_chasfs_boottime_t)

# chasfs_boottime.sh starts cman_fp or cmand with -C option; allow its
# transition to fman_fp_t type
optional_policy(
  polaris_cm_rp_domtrans(polaris_chasfs_boottime_t)
')
optional_policy(
  polaris_cm_fp_domtrans(polaris_chasfs_boottime_t)
')
optional_policy(
  polaris_cm_cc_domtrans(polaris_chasfs_boottime_t)
')

ifdef(`ngwc_family', `#

# Allow iox_polaris.conf read
polaris_caf_files_read(polaris_chasync_t)
# Allow losetup in helper script
fstools_domtrans(polaris_chasync_t)

# Manage alternate hdd files
polaris_iox_alt_hdd_manage(polaris_chasync_t)

# Allow console logging
term_open_unallocated_ttys(polaris_chasync_t)

# Allow logger which is used for syslog message
allow polaris_chasync_t self:unix_dgram_socket { connect create }
logging_send_syslog_msg(polaris_chasync_t)

# logger needs to run pidof
dev_read_sysfs(polaris_chasync_t)
domain_read_all_domains_state(polaris_chasync_t)

')

type polaris_chasync_files_t;
files_type(polaris_chasync_files_t)
polaris_pfile_type(polaris_chasync_files_t)

optional_policy('
gen_require('
    type polaris_disk_harddisk_t;
    type polaris_disk_bootflash_t;
')
filetrans_pattern(polaris_chasync_t, {polaris_disk_bootflash_t polaris_disk_harddisk_t}, polaris_chasync_files_t, dir, "sys_report")
filetrans_pattern(polaris_chasync_t, {polaris_disk_bootflash_t polaris_disk_harddisk_t}, polaris_chasync_files_t, dir, "fp_cc_crash")
filetrans_pattern(polaris_chasync_t, polaris_disk_bootflash_t, polaris_chasync_files_t, file, "user_input_custom.xml")

# chasync can manage files inside of its own polaris_disk_chasync_t directories
manage_dirs_pattern(polaris_chasync_t, polaris_chasync_files_t, polaris_chasync_files_t)
manage_files_pattern(polaris_chasync_t, polaris_chasync_files_t, polaris_chasync_files_t)
allow polaris_chasync_t polaris_chasync_files_t:dir watch;
polaris_install_disk_read(polaris_chasync_t)
')

optional_policy('
# chasync invoked sys_report does ls /tmp/ufs/crashinfo
polaris_ncd_tmp_read(polaris_chasync_t)
')
# chasync moves inv files from /tftp/inv to chasfs directory
allow polaris_chasync_t self:capability { chown fowner fsetid };  
gen_require('  
type brctl_t;')  
# pd_iox.sh invokes brctl which needs access to chasfs  
polaris_chasfs_read(brctl_t)

# allow chasync to unmount flash partition  
mount_domtrans(polaris_chasync_t)

sysnet_domtrans_ifconfig(polaris_chasync_t)

# chasync.sh needs read access to /bootflash/installer/install_issu_state  
polaris_disk_install_read(polaris_chasync_t)

Found in path(s):  
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarischasfs.te
No license file was found, but licenses were detected in source scan.

#  
# March 2017, Victor Kamensky  
#  
# Copyright (c) 2016-2020 by Cisco Systems, Inc.  
# All rights reserved  
#

policy_module(polariscpp, 1.0);

############################################################################  
# Polaris cpp (ultra)  
############################################################################

type polaris_cpp_device_t;  
dev_node(polaris_cpp_device_t)

# deals with /dev/shm files semaphors, etc  
type polaris_cpp_tmpfs_t;  
files_tmpfs_file(polaris_cpp_tmpfs_t)  
attribute polaris_cpp_domain;  
fs_tmpfs_filetrans(polaris_cpp_domain, polaris_cpp_tmpfs_t, file)  
manage_files_pattern(polaris_cpp_domain, tmpfs_t, polaris_cpp_tmpfs_t)  
allow polaris_cpp_domain polaris_cpp_tmpfs_t:file map;  
polaris_cpp_tmpfs_manage(polaris_cpp_domain)  
polaris_cerr_shm_manage(polaris_cpp_domain)

# on TSN ucode_dram lives in hugetlbfs  
fs_hugetlbfs_filetrans(polaris_cpp_domain, polaris_cpp_tmpfs_t, file)
gen_require("
    type hugetlbfs_t;
")
manage_files_pattern(polaris_cpp_domain, hugetlbfs_t, polaris_cpp_tmpfs_t)

# deals with cpp /tmp files

type polaris_cpp_tmpfs_t;
files_cpp_file(polaris_cpp_tmpfs_t)
files_cpp_filetrans(polaris_cpp_domain, polaris_cpp_tmpfs_t, file, "cpp_anon_db")
files_cpp_filetrans(polaris_cpp_domain, polaris_cpp_tmpfs_t, file, "qm_rt_dbg")
files_cpp_filetrans(polaris_cpp_domain, polaris_cpp_tmpfs_t, fifo_file, "cpp_ifdev_rep")
files_cpp_filetrans(polaris_cpp_domain, polaris_cpp_tmpfs_t, fifo_file, "cpp_ifdev_req")
manage_files_pattern(polaris_cpp_domain, tmpfs_t, polaris_cpp_tmpfs_t)
manage_fifo_files_pattern(polaris_cpp_domain, tmpfs_t, polaris_cpp_tmpfs_t)
allow polaris_cpp_domain polaris_cpp_tmpfs_t:file map;

fs_getattr_tmpfs(polaris_cpp_domain)

# overlord/neptune access /sys/bus/pci/devices/0000:01:00.0/resource0
# when initializing the CPP DMAP library
optional_policy("
polaris_cpp_cavium_dma_map(polaris_cpp_domain)
")

type polaris_i95_device_t;
dev_node(polaris_i95_device_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscpp.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#
#
# some platforms have /usr/binos/bin/fman_fp as hardlink to
# /usr/binos/bin/fman_fp_image
/usr/binos/bin/fman_fp -- gen_context(system_u:object_r:polaris_fman_fp_exec_t,s0)
/usr/binos/bin/fman_fp_ledp -- gen_context(system_u:object_r:polaris_fman_fp_exec_t,s0)
/usr/binos/bin/fman_fp_vwlc_ledp -- gen_context(system_u:object_r:polaris_fman_fp_exec_t,s0)
/usr/binos/bin/fman_fp_us_ledp -- gen_context(system_u:object_r:polaris_fman_fp_exec_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisfmanfp.fc
No license file was found, but licenses were detected in source scan.

# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris ngiolite Policy Rules.</summary>

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
## <summary>
##      Execute mcp_smartctl_cmds.sh in the polaris_smartctl domain.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed to transition.
##      </summary>
## </param>
#
# interface('polaris_smartctl_domtrans',
  gen_require(
    type polaris_smartctl_t, polaris_smartctl_exec_t;
  )
  
  corecmd_search_bin($1)
  domtrans_pattern($1, polaris_smartctl_exec_t, polaris_smartctl_t)
)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisngiolite.if

No license file was found, but licenses were detected in source scan.

# February 2018, Manohar Hungund
#
# Copyright (c) 2018-2019 by Cisco Systems, Inc.
# All rights reserved
#

/dev/act2 -c gen_context(system_u:object_r:polaris_act2_device_t,s0)
/tmp/hw_entropy -- gen_context(system_u:object_r:polaris_hw_entropy_t,s0)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisact2.fc
No license file was found, but licenses were detected in source scan.

# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscmcc, 1.0);

gen_require('  
    type polaris_cm_cc_t;
')

polaris_btrace_data_manage(polaris_cm_cc_t)
polaris_crft_data_manage(polaris_cm_cc_t)
polaris_chasfs_manage(polaris_cm_cc_t)
polaris_tdlresolve_read(polaris_cm_cc_t)
polaris_tlddb_list_dirs(polaris_cm_cm_t)
polaris_cpld_read(polaris_cm_cm_t)
polaris_lua_read(polaris_cm_cm_t)
polaris_flashlib_read(polaris_cm_cm_t)
polaris_cpld_dev_use(polaris_cm_cm_t)
polaris_proc_rmonbifo_read(polaris_cm_cm_t)
polaris_ripc_sman_ui_serv_connect(polaris_cm_cm_t)

optional_policy('  
    # access to /dev/iocp0
    polaris_spa_dev_use(polaris_cm_cm_t)
')

optional_policy('  
    # access to /dev/htdb[0-9]*
    polaris_htdp_dev_use(polaris_cm_cm_t)
')

# read /proc/cmdline
kernel_read_system_state(polaris_cm_cm_t)
# work with /dev/i2c devices
polaris_i2c_use(polaris_cm_cm_t)

polaris_obfl_data_read(polaris_cm_cm_t)
# cmcc module as part of init calls cmem_obfl_write_voltage_log(),
# which writes to obfl device.
polaris_obfl_data_manage(polaris_cm_cm_t)
# on vxe platform /obfl is symlink to /varied
ifdef('vxe_family',

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 1072
polaris_disk_varied_list(polaris_cm_cc_t)
')

# on lng works with /dev/cpld-virtual-cc
polaris_cpp_dev_use(polaris_cm_cc_t)

polaris_i2c_use(polaris_cm_cc_t)
dev_rw_sysfs(polaris_cm_cc_t)

define("crankshaft_family",
  # read,getattr, map access to /firmware/ files for Switzer-CC
  polaris_firmware_read(polaris_cm_cc_t)
polaris_firmware_getattr(polaris_cm_cc_t)
polaris_firmware_map(polaris_cm_cc_t)
')

# allow objstore access
polaris_disk_objstore_read(polaris_cm_cc_t)

define("fugazi_platform",
  # get interface address cmlib_if_config_addr at cman/lib/cmlib_msgs/src/cmlib_eobc.c
  allow polaris_cm_cc_t self:udp_socket { create ioctl }
);  

# on utah need to get model info
optional_policy(
  polaris_dash_dev_use(polaris_cm_cc_t)
')

#access to /dev/dash_fpga device on fugazi platform
if define("fugazi_platform",
  polaris_dash_dev_mcp_use(polaris_cm_cc_t)
')

#access to /dev/nutella_fpga device on nutella platform
optional_policy(
  polaris_nutella_fpga_dev_use(polaris_cm_cc_t)
')

# handle /tmp/pci files on utah
type polaris_pci_tmp_t;
files_tmp_file(polaris_pci_tmp_t)

# /tmp/pci/bus, /tmp/pci/vendor, /tmp/pic/device created by systemd unit
gen_require(
  type initrce_t;
type unconfined_service_t;
type tmp_t;
)
files_tmp_filetrans( { unconfined_service_t initrce_t }, polaris_pci_tmp_t, dir, "pci")
manage_dirs_pattern(initrce_t, tmp_t, polaris_pci_tmp_t)
manage_files_pattern(initrc_t, polaris_pci_tmp_t, polaris_pci_tmp_t)
manage_files_pattern(polaris_cm_cc_t, polaris_pci_tmp_t, polaris_pci_tmp_t)

logging_send_syslog_msg(polaris_cm_cc_t)

# cmcc module creates the PCI rescanning shm mutex.
# /dev/shm/rescan_shm file.
type polaris_cm_cc_tmpfs_t;
files_tmpfs_file(polaris_cm_cc_tmpfs_t);
fs_tmpfs_filetrans(polaris_cm_cc_t, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)
manage_files_pattern(polaris_cm_cc_t, tmpfs_t, polaris_cm_cc_tmpfs_t)
mmap_files_pattern(polaris_cm_cc_t, tmpfs_t, polaris_cm_cc_tmpfs_t)
dev_read_sysfs(polaris_cm_cc_t)
dev_getattr_sysfs_fs(polaris_cm_cc_t)
fs_getattr_tmpfs(polaris_cm_cc_t)

# /tmp/udev-cc should it not be polaris_udev_tmp_t

type polaris_cm_cc_tmp_t;
files_tmp_file(polaris_cm_cc_tmp_t);
files_tmp_filetrans(polaris_cm_cc_t, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t, file)
manage_files_pattern(polaris_cm_cc_t, tmpfs_t, polaris_cm_cc_tmpfs_t)
gen_require(
    type tmp_t;
)
manage_dirs_pattern(polaris_cm_cc_t, { tmp_t polaris_cm_cc_tmp_t }, polaris_cm_cc_tmpfs_t)

# on tsn need access to /dev/moka_fpga
optional_policy(
    polaris_mokafpga_dev_use(polaris_cm_cc_t)
)

optional_policy(
    # betelgeuse need access to /dev/sirius_fpga
    polaris_sirius_fpga_dev_use(polaris_cm_cc_t)
)

# on macallan need access to /dev/quack
optional_policy(
    polaris_quack_dev_use(polaris_cm_cc_t)
)

polaris_cpld_write(polaris_cm_cc_t)

optional_policy(
    # on starfleet access gettysburg_fpga
    polaris_gettysburg_fpga_dev_use(polaris_cm_cc_t)
)
optional_policy(`polaris_epa_dev_use(polaris_cm_cc_t)`)
)

optional_policy(`polaris_luna_nbfpfga_dev_use(polaris_cm_cc_t)`)
)

optional_policy(`polaris_astro_dev_use(polaris_cm_cc_t)`)
)

optional_policy(`polaris_huron_dev_use(polaris_cm_cc_t)`)
)

type polaris_nim_xxd_tmp_t;
files_tmp_file(polaris_nim_xxd_tmp_t)
files_tmp_filetrans(polaris_cm_cc_t, polaris_nim_xxd_tmp_t, file, "nim_xxd_present")
manage_files_pattern(polaris_cm_cc_t, polaris_nim_xxd_tmp_t, polaris_nim_xxd_tmp_t)
ifdef(`starfleet_platform',
    # In cman.cc
    # cmcc_starfleet_act2_authentication_udi in cman/cc/src/cmcc_starfleet.c
    # cmcc_starfleet_cpuboard_act2_authentication_udi cman/cc/src/cmcc_starfleet.c
    # tam_lib_device_open infra/act2/tam_act2/tam_lib/src/tam_lib_device.c:
    polaris_act2_dev_use(polaris_cm_cc_t)
)

ifdef(`crankshaft_family',
    # modprobe sm_nim_adpt.ko for Switzer-CC
modutils_domtrans_insmod(polaris_cm_cc_t)
#ifdef(`crankshaft_family',
    gen_require(`
        type systemd_tmpfiles_t;
    `)
    mmap_files_pattern(systemd_tmpfiles_t, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)
    `)

# Mapping permission for /dev/shm/<name>
ifdef(`crankshaft_family',
    gen_require(`
        type systemd_tmpfiles_t;
    `)
    mmap_files_pattern(systemd_tmpfiles_t, polaris_cm_cc_tmpfs_t, polaris_cm_cc_tmpfs_t)
    `)
# on ngwc cmcc needs to access /dev/chdrvmmmap for asic memory mapping
optional_policy(
  polaris_chdrvmmmap_dev_use(polaris_cm_cc_t)
)

ifdef('vxe_family',
  # bind to BMC_AGENT_CLIENT_PORT port from cman_tlv_init
corenet_tcp_bind_polaris_bmc_agent_client_port(polaris_cm_cc_t)
)

# allow /usr/binos/bin/cmcc to access /tmp/hd_sz
gen_require('  
  type udev_tmp_t;
')
read_files_pattern(polaris_cm_cc_t, udev_tmp_t, udev_tmp_t)

# allow /usr/sbin/smartctl to be operated on fsadm_exec_t
fstools_exec(polaris_cm_cc_t)

# using existing interface "polaris_cm_rp_tmp_manage" for polaris_cm_cc_t
# to access /tmp/cmlib_eeprom_sim_smartctl.out
polaris_cm_rp_tmp_manage(polaris_cm_cc_t)
files_tmp_filetrans(polaris_cm_cc_t, polaris_cm_rp_tmp_t, file, "cmlib_eeprom_sim_smartctl.out")

# allow access to /dev/nvme*
dev_nvme_chr_files_manage(polaris_cm_cc_t)
dev_nvme_blk_files_manage(polaris_cm_cc_t)

# access to /dev/ttyS0
term_use_unallocated_ttys(polaris_cm_cc_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscmcc.te
No license file was found, but licenses were detected in source scan.

#
# June 2017, Victor Kamensky
#
# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved
#
## <summary>Polaris tservice Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristservice.if
No license file was found, but licenses were detected in source scan.
## <summary>Polaris polarissortfiles Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissortfiles.if
No license file was found, but licenses were detected in source scan.

## <summary>Polaris Storage Policy Rules.</summary>

# Persistent storage policy

```perl
#interface('polaris_disk_type',
  files_type($1)
  gen_require(
    attribute polaris_disk;
    ')
  typeattribute $1 polaris_disk;
  ')
```

## <summary>
## Make the specified type usable for files
```perl
#interface('polaris_disk_type',
  files_type($1)
  gen_require(
    attribute polaris_disk;
    ')
  typeattribute $1 polaris_disk;
  ')
```
## in a Polaris persistent (bootflash, hardisk, etc)
## filesystem.
## </summary>
## <param name="type">
## Type to be used for files.
## </param>
#
interface(`polaris_pfile_type`,
    files_type($1)
    gen_require(
        attribute polaris_disk;
    )
    typeattribute $1 polaris_disk;
')

#######################################
## <summary>
## Read any regular file/directory from persistent storage.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_persistent_read`,
    gen_require(
        attribute polaris_disk;
    )
    read_files_pattern($1, polaris_disk, polaris_disk)
    read_lnk_files_pattern($1, polaris_disk, polaris_disk)
    list_dirs_pattern($1, polaris_disk, polaris_disk)
')

#######################################
## <summary>
## Getattr of any regular file/directory from persistent storage.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface(`polaris_persistent_getattr`,
    gen_require(

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 1078
attribute polaris_disk;
)
list_dirs_pattern($1, polaris_disk, polaris_disk)
getattr_files_pattern($1, polaris_disk, polaris_disk)
getattr_lnk_files_pattern($1, polaris_disk, polaris_disk)
)

###########################################################
## <summary>
## Listdir of any regular directory from persistent storage.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
# interface('polaris_persistent_list_dirs',
  gen_require(
    attribute polaris_disk;
  )
  list_dirs_pattern($1, polaris_disk, polaris_disk)
)

###########################################################
## <summary>
## Write/read any regular file/directory from persistent storage.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
# interface('polaris_persistent_manage',
  gen_require(
    attribute polaris_disk;
  )
  manage_files_pattern($1, polaris_disk, polaris_disk)
  manage_dirs_pattern($1, polaris_disk, polaris_disk)
  manage_lnk_files_pattern($1, polaris_disk, polaris_disk)
)

###########################################################
## <summary>
## Map any regular file/directory from persistent storage.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_persistent_map',`
gen_require(`
    attribute polaris_disk;
')
allow $1 polaris_disk:file map;
')

# debug.conf

## <summary>
##	Read debug.conf from persistent storage.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_read_debug_conf',`
gen_require(`
    type polaris_debug_conf_t;
type polaris_disk_bootflash_t;
type polaris_disk_harddisk_t;
type tmp_t;
')
read_files_pattern($1, polaris_disk_bootflash_t, polaris_debug_conf_t)
read_files_pattern($1, polaris_disk_harddisk_t, polaris_debug_conf_t)
read_files_pattern($1, tmp_t, polaris_debug_conf_t)
read_lnk_files_pattern($1, tmp_t, polaris_debug_conf_t)
polaris_disk_bootflash_read_lnk($1)
')

# packages.conf

## <summary>
##	Read packages.conf from persistent storage.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface("polaris_read_packages_conf",
    gen_require(
        type polaris_packages_conf_t;
        type polaris_disk_bootflash_t;
        type polaris_disk_harddisk_t;
    )
    read_files_pattern($1, polaris_disk_bootflash_t, polaris_packages_conf_t)
    read_files_pattern($1, polaris_disk_harddisk_t, polaris_packages_conf_t)
)

interface("polaris_manage_packages_conf",
    gen_require(
        type polaris_packages_conf_t;
        type polaris_disk_bootflash_t;
        type polaris_disk_harddisk_t;
    )
    manage_files_pattern($1, polaris_disk_bootflash_t, polaris_packages_conf_t)
    manage_files_pattern($1, polaris_disk_harddisk_t, polaris_packages_conf_t)
)

interface("polaris_disk_varied_manage",

type polaris_disk_varied_t;
    type polaris_disk_bootflash_t;
    type polaris_disk_varied_t;
    type polaris_disk_harddisk_t;

    manage_files_pattern($1, polaris_disk_bootflash_t, polaris_packages_conf_t)
    manage_files_pattern($1, polaris_disk_harddisk_t, polaris_packages_conf_t)

    manage_files_pattern($1, polaris_disk_varied_t, polaris_packages_conf_t)

    manage_files_pattern($1, polaris_disk_varied_t, polaris_packages_conf_t)
)
gen_require(
    type polaris_disk_varied_t;
)
manage_files_pattern($1, polaris_disk_varied_t, polaris_disk_varied_t)
)

########################################################################
## <summary>
##      read any regular file/directory from /varied
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_disk_varied_read',
    gen_require(
        type polaris_disk_varied_t;
    )
    read_files_pattern($1, polaris_disk_varied_t, polaris_disk_varied_t)
list_dirs_pattern($1, polaris_disk_varied_t, polaris_disk_varied_t)
)

########################################################################
## <summary>
##      Search /varied directory
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_disk_varied_search',
    gen_require(
        type polaris_disk_varied_t;
    )
    search_dirs_pattern($1, polaris_disk_varied_t, polaris_disk_varied_t)
)

########################################################################
## <summary>
##      List/read /varied directory
## </summary>
## <param name="domain"
## <summary>
Domain allowed access.
</summary>

#

interface('polaris_disk_varied_list',
    gen_require(
        type polaris_disk_varied_t;
    )
)  
list_dirs_pattern($1, polaris_disk_varied_t, polaris_disk_varied_t)
)

#######################################
## <summary>
## Write/read/remove polaris_core_file_t file/directory from 
## persistent storage.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#

interface('polaris_core_file_manage',
    gen_require(
        type polaris_core_file_t;
    )
)  
allow $1 polaris_core_file_t:dir rmdir;
manage_files_pattern($1, polaris_core_file_t, polaris_core_file_t)

    allow $1 polaris_core_file_t:dir watch;
)

#######################################
## <summary>
## Search polaris_core_file_t dir 
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#

interface('polaris_core_file_search',
    gen_require(
        type polaris_core_file_t;
    )
)  
search_dirs_pattern($1, polaris_core_file_t, polaris_core_file_t)
### <summary>
## Read/Open/Search polaris_core_file_t dir
### </summary>
### <param name="domain">
### <summary>
Domain allowed access.
### </summary>
### </param>

```
interface(`polaris_core_file_read',
    gen_require(`
        type polaris_core_file_t;
    ')
    allow $1 polaris_core_file_t:dir read;
    getattr_files_pattern($1, polaris_core_file_t, polaris_core_file_t)
')
```

### <summary>
## Get attrib of bootflash fifo file.
### </summary>
### <param name="domain">
### <summary>
Domain allowed access.
### </summary>
### </param>

```
interface(`polaris_disk_bootflash_fifo_file_getattr',
    gen_require(`
        type polaris_disk_bootflash_t;
    ')
    getattr_fifo_files_pattern($1, polaris_disk_bootflash_t,
        polaris_disk_bootflash_t)
')
```

### <summary>
## Get attrib of bootflash sock file.
### </summary>
### <param name="domain">
### <summary>
Domain allowed access.
### </summary>
### </param>
interface('polaris_disk_bootflash_sock_file_getattr',
  gen_require(
    type polaris_disk_bootflash_t;
  ')
  
attr_sock_files_pattern($1, polaris_disk_bootflash_t,
  polaris_disk_bootflash_t)
  ')

################################################################
## <summary>
## Read links of polaris_disk_bootflash_t
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_disk_bootflash_read_lnk',
  gen_require(
    type polaris_disk_bootflash_t;
  ')
  
read_lnk_files_pattern($1, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
  ')

################################################################
## <summary>
## Search polaris_disk_bootflash_t dir
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_disk_bootflash_search',
  gen_require(
    type polaris_disk_bootflash_t;
  ')
  
search_dirs_pattern($1, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
  ')

################################################################
## <summary>
## Write/read any regular file/directory under /csl_p_0/, /csl_p_1, /csl_s_0, and /csl_s_1
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_disk_csl_manage',
  gen_require(
    type polaris_disk_csl_p_t;
    type polaris_disk_csl_s_t;
  )
  manage_files_pattern($1, polaris_disk_csl_p_t, polaris_disk_csl_p_t)
  manage_files_pattern($1, polaris_disk_csl_s_t, polaris_disk_csl_s_t)
  read_lnk_files_pattern($1, polaris_disk_csl_p_t, polaris_disk_csl_p_t)
  read_lnk_files_pattern($1, polaris_disk_csl_s_t, polaris_disk_csl_s_t)
)

#######################################
## <summary>
## Write/read any regular file/directory under /csl_p_0/, /csl_p_1,
## /csl_s_0, and /csl_s_1
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_disk_csl_read',
  gen_require(
    type polaris_disk_csl_p_t;
    type polaris_disk_csl_s_t;
  )
  read_files_pattern($1, polaris_disk_csl_p_t, polaris_disk_csl_p_t)
  read_files_pattern($1, polaris_disk_csl_s_t, polaris_disk_csl_s_t)
  read_lnk_files_pattern($1, polaris_disk_csl_p_t, polaris_disk_csl_p_t)
  read_lnk_files_pattern($1, polaris_disk_csl_s_t, polaris_disk_csl_s_t)
)

#######################################
## <summary>
## Write/read any regular file/directory under /objstore,
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
```c
# interface('polaris_disk_objstore_manage',
    gen_require(
        type polaris_disk_objstore_t;
    )
    manage_files_pattern($1, polaris_disk_objstore_t, polaris_disk_objstore_t)
    read_lnk_files_pattern($1, polaris_disk_objstore_t, polaris_disk_objstore_t)
)

interface('polaris_disk_objstore_read',
    gen_require(
        type polaris_disk_objstore_t;
    )
    read_files_pattern($1, polaris_disk_objstore_t, polaris_disk_objstore_t)
    list_dirs_pattern($1, polaris_disk_objstore_t, polaris_disk_objstore_t)
)

#######################################
## <summary>
## Read links of polaris_disk_harddisk_t
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_disk_harddisk_read_lnk',
    gen_require(
        type polaris_disk_harddisk_t;
    )
    read_lnk_files_pattern($1, polaris_disk_harddisk_t, polaris_disk_harddisk_t)
)

#######################################
## <summary>
## Read harddisk files
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_harddisk_read',
    gen_require(
        type polaris_disk_harddisk_t;
    )
)```

---

Open Source Used In Petra/TRAX/Arthas RM ipcentral 17.6 1087
read_files_pattern($1, polaris_disk_harddisk_t, polaris_disk_harddisk_t)
list_dirs_pattern($1, polaris_disk_harddisk_t, polaris_disk_harddisk_t)
}

#######################################
## <summary>
##      Read bootflash files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_bootflash_read',`
   gen_require(`
      type polaris_disk_bootflash_t;
   `)
   read_files_pattern($1, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
   read_lnk_files_pattern($1, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
   list_dirs_pattern($1, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
`)

#######################################
## <summary>
##      Manage bootflash files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_bootflash_manage',`
   gen_require(`
      type polaris_disk_bootflash_t;
   `)
   manage_files_pattern($1, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
   manage_lnk_files_pattern($1, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
   manage_dirs_pattern($1, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
`)

########################################
##	Create an object in the polaris_disk_bootflash_t directories,
## with a private type using a type transition.
##
## <summary>
## <param name="domain">
##	<summary>
##	Domain allowed access.
##	</summary>
## </param>
## <param name="private type">
##	<summary>
##	The type of the object to be created.
##	</summary>
## </param>
## <param name="object">
##	<summary>
##	The object class of the object being created.
##	</summary>
## </param>
## <param name="name" optional="true">
##	<summary>
##	The name of the object being created.
##	</summary>
## </param>
#
interface(`polaris_bootflash_filetrans`,
  gen_require(`
    type polaris_disk_bootflash_t;
    `)
  filetrans_pattern($1, polaris_disk_bootflash_t, $2, $3, $4)
)

#######################################
## <summary>
##      Manage bootflash files
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_harddisk_manage`,
  gen_require(`
    type polaris_disk_harddisk_t;
    `)
  manage_files_pattern($1, polaris_disk_harddisk_t, polaris_disk_harddisk_t)
  manage_lnk_files_pattern($1, polaris_disk_harddisk_t, polaris_disk_harddisk_t)
  manage_dirs_pattern($1, polaris_disk_harddisk_t, polaris_disk_harddisk_t)
)

Create an object in the `polaris_disk_harddisk_t` directories, with a private type using a type transition.

Domain allowed access.

The type of the object to be created.

The object class of the object being created.

The name of the object being created.

interface('polaris_disk_harddisk_filetrans',
gens_require(`
type polaris_disk_harddisk_t;
```
filetrans_pattern($1, polaris_disk_harddisk_t, $2, $3, $4)
```

Getattr of `polaris_disk_crashinfo_t` (typically /crashinfo symbolic link and real disk it points to)

Domain allowed access.

# interface('polaris_disk_crashinfo_getattr',
gen_require(`
type polaris_disk_crashinfo_t;

read_lnk_files_pattern($1, polaris_disk_crashinfo_t, polaris_disk_crashinfo_t)
getattr_lnk_files_pattern($1, polaris_disk_crashinfo_t, polaris_disk_crashinfo_t)
getattr_files_pattern($1, polaris_disk_crashinfo_t, polaris_disk_crashinfo_t)
getattr_dirs_pattern($1, polaris_disk_crashinfo_t, polaris_disk_crashinfo_t)

interface('polaris_disk_crashinfo_read_lnk',
    gen_require(',
        type polaris_disk_crashinfo_t;
    )
    read_lnk_files_pattern($1, polaris_disk_crashinfo_t, polaris_disk_crashinfo_t)
)

interface('polaris_disk_crashinfo_manage',
    gen_require(',
        type polaris_disk_crashinfo_t;
    )
    manage_files_pattern($1, polaris_disk_crashinfo_t, polaris_disk_crashinfo_t)
    manage_lnk_files_pattern($1, polaris_disk_crashinfo_t, polaris_disk_crashinfo_t)
    manage_dirs_pattern($1, polaris_disk_crashinfo_t, polaris_disk_crashinfo_t)
)
## Write/read polaris_disk_license_t files/directories
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_disk_license_manage',`
    gen_require(`
        type polaris_disk_license_t;
    `)
    manage_files_pattern($1, polaris_disk_license_t, polaris_disk_license_t)
    manage_lnk_files_pattern($1, polaris_disk_license_t, polaris_disk_license_t)
    allow $1 polaris_disk_license_t:file map;
`)  

##############################################################
## Feed polaris_disk_license_t files/directories
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_disk_license_read',`
    gen_require(`
        type polaris_disk_license_t;
    `)
    read_files_pattern($1, polaris_disk_license_t, polaris_disk_license_t)
    read_lnk_files_pattern($1, polaris_disk_license_t, polaris_disk_license_t)
`)  

##############################################################
## Get the attributes of an removable filesystem.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface('polaris_getattr_removable',`
    gen_require(`
        type polaris_disk_license_t;
    `)
    getattr($1)
`)
type removable_t;

allow $1 removable_t:filesystem getattr;
allow $1 removable_t:dir        getattr;

########################################
## <summary>
##      Create, read, write, and delete all removable files.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_removable_manage',`
gen_require(`
type removable_t;
`)

manage_files_pattern($1, removable_t, removable_t)
manage_dirs_pattern($1, removable_t, removable_t)

')

########################################
## <summary>
##      read all removable files.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
interface(`polaris_removable_read',`
gen_require(`
type removable_t;
`)
read_files_pattern($1, removable_t, removable_t)
list_dirs_pattern($1, removable_t, removable_t)
read_lnk_files_pattern($1, removable_t, removable_t)

')

########################################
## <summary>
##      Get the attributes of silent roll partition
## <summary>
## Get the attributes of a filesystem.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_getattr_filesystem_disk_ucode',
    gen_require(''
        type polaris_disk_ucode_t;
    ')
)
allow $1 polaris_disk_ucode_t:filesystem getattr;
')

########################################
## <summary>
## Get the attributes of a bootflash filesystem.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_getattr_bootflash',
    gen_require(''
        type polaris_disk_bootflash_t;
    ')
)
allow $1 polaris_disk_bootflash_t:filesystemgetattr;
')

########################################
## <summary>
## Get the attributes of a harddisk filesystem.
## </summary>
## <param name="domain">
## Domain allowed access.
## </param>
#
interface('polaris_getattr_harddisk',
    gen_require(''
        type polaris_disk_harddisk_t;
    ')
)
type polaris_disk_harddisk_t;
');

allow $1 polaris_disk_harddisk_t:filesystem getattr;
');

#---------------------------------------------------------------
## <summary>
##      Get the attributes of an harddisk
##      file.
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
#
# interface('polaris_getattr_file_harddisk',
   gen_require(
      type polaris_disk_harddisk_t;
   )
   getattr_files_pattern($1, polaris_disk_harddisk_t, polaris_disk_harddisk_t)
   )
#
#---------------------------------------------------------------
## <summary>
##      Watch persistent file or directories
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <rolebase/>
#
# interface('polaris_persistent_watch',
   gen_require(
      attribute polaris_disk;
   )
   allow $1 polaris_disk: {dir file } watch;
   )
#
#---------------------------------------------------------------
## <summary>
##     Create an object in the polaris_disk_crashinfo_t directories,
## with a private type using a type transition.
## </summary>
## <param name="domain">

## <summary>
## Domain allowed access.
## </summary>
## <param name="private type">
## <summary>
## The type of the object to be created.
## </summary>
## </param>
## <param name="object">
## <summary>
## The object class of the object being created.
## </summary>
## </param>
## <param name="name" optional="true">
## <summary>
## The name of the object being created.
## </summary>
## </param>
#
interface('polaris_crashinfo_filetrans',
    gen_require(
        type polaris_disk_crashinfo_t;
    )
)
filetrans_pattern($1, polaris_disk_crashinfo_t, $2, $3, $4)
')

##############################################################################
## <summary>
## Get the attributes of an polaris_disk_config_t file or directory.
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>
## <summary>
## Get the attributes of an polaris_disk_config_t file or directory.
## </summary>
## <param name="domain">
## <summary>
## Domain allowed access.
## </summary>
## </param>

interface('polaris_getattr_disk_config',
    gen_require(
        type polaris_disk_config_t;
    )
    getattr_files_pattern($1, polaris_disk_config_t, polaris_disk_config_t)
    getattr_dirs_pattern($1, polaris_disk_config_t, polaris_disk_config_t)
')

##############################################################################
## <summary>
## Create an object in the polaris_disk_config_t directories,
## with a private type using a type transition.
## </summary>
##
## <param name="domain">
## Domain allowed access.
## </param>
##
## <param name="private type">
## The type of the object to be created.
## </param>
##
## <param name="object">
## The object class of the object being created.
## </param>
##
## <param name="name" optional="true">
## The name of the object being created.
## </param>
##
#
# interface(`polaris_disk_config_filetrans',
  gen_require(
    type polaris_disk_config_t;
  ')
)

filetrans_pattern($1, polaris_disk_config_t, $2, $3, $4)
')

#######################################
## <summary>
## Manage bootflash files mmap
## </summary>
##
## <param name="domain">
## Domain allowed access.
## </param>
##
#
# interface(`polaris_bootflash_files_mmap',
  gen_require(
    type polaris_disk_bootflash_t;
  ')
)
mmap_files_pattern($1, polaris_disk_bootflash_t, polaris_disk_bootflash_t)
policy_module(polarisjvm, 1.0);

gen_require(
    type polaris_jvm_t;
')

# access /etc/passwd
auth_use_nsswitch(polaris_jvm_t)

# java through posix_sysconf accesses /sys/devices/system/cpu
# to get number of CPUs
dev_read_sysfs(polaris_jvm_t)

# checks whether IPV6 is configured accessing /proc/pid/net/if_inet6
kernel_read_network_state(polaris_jvm_t)

# handling ~/.oracle_jre_usage
type polaris_jvm_home_t;
files_type(polaris_jvm_home_t)
gen_require(
    type user_home_dir_t;
')
filetrans_pattern(polaris_jvm_t, user_home_dir_t, polaris_jvm_home_t, dir, ".oracle_jre_usage")
manage_dirs_pattern(polaris_jvm_t, user_home_dir_t, polaris_jvm_home_t)
manage_files_pattern(polaris_jvm_t, polaris_jvm_home_t, polaris_jvm_home_t)

# handling /tmp/hsperfdata_root
type polaris_jvm_tmp_t;
files_type(polaris_jvm_tmp_t)
gen_require(
    type tmp_t;
')
files_tmp_filetrans(polaris_jvm_t, polaris_jvm_tmp_t, dir, "hsperfdata_root")
manage_dirs_pattern(polaris_jvm_t, tmp_t, polaris_jvm_tmp_t)
manage_files_pattern(polaris_jvm_t, polaris_jvm_tmp_t, polaris_jvm_tmp_t)
mmap_files_pattern(polaris_jvm_t, polaris_jvm_tmp_t, polaris_jvm_tmp_t)

# listen on 9093 websocket tcp port
corenets_tcp_bind_polaris_poljvm_websocket_port(polaris_jvm_t)
corenets_tcp_bind_generic_node(polaris_jvm_t)
allow polaris_jvm_t self:tcp_socket create_stream_socket_perms;

# java uses jit and needs executable anonymous mapping
allow polaris_jvm_t self:process execmem;

# Allow JDK access to read cpu and memory utilization data on start up
gen_require(
    type proc_t;
)

allow polaris_jvm_t proc_t:file { getattr open read };
fs_read_cgroup_files(polaris_jvm_t)
fs_search_cgroupDirs(polaris_jvm_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisjvm.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris plogd Policy Rules.</summary>

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarisplogd.if
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

## <summary>Polaris hm Policy Rules.</summary>

# Write into fifo file created by hman, typical case when
hman starts script under popen.

<summary>
Domain allowed access.

</summary>

<param name="domain">
Domain allowed access.

</param>

interface(`polaris_hman_use_fifo',

gen_require(

type polaris_hm_t;
')

write_fifo_files_pattern($1, polaris_hm_t, polaris_hm_t)
')

########################################

<summary>
Read tmp files created by hman. I.e /tmp/myhostname.

</summary>

<param name="domain">
Domain allowed access.

</param>

interface(`polaris_hm_tmp_read',

gen_require(

type polaris_hm_tmp_t;
')

read_files_pattern($1, polaris_hm_tmp_t, polaris_hm_tmp_t)
')

########################################

<summary>
Execute pkg_summary.sh in its own domain

</summary>

<param name="domain">
Domain allowed access.

</param>

interface(`polaris_pkg_summary_domtrans',

gen_require(
    type polaris_pkg_summary_t;
    type polaris_pkg_summary_exec_t;
)

corecmd_search_bin($1)
domtrans_pattern($1, polaris_pkg_summary_exec_t, polaris_pkg_summary_t)
)

########################################
## <summary>
##      Execute pkg_to_tree.sh in its own domain
## </summary>
## <param name="domain">
##      <summary>
##      Domain allowed access.
##      </summary>
## </param>
## <rolecap/>
#

interface(`polaris_pkg_to_tree_domtrans',`
    gen_require(
        type polaris_pkg_to_tree_t;
        type polaris_pkg_to_tree_exec_t;
    )

    corecmd_search_bin($1)
domtrans_pattern($1, polaris_pkg_to_tree_exec_t, polaris_pkg_to_tree_t)
)

########################################
## <summary>
##	Execute hman in the polaris_cli_fs_cmds domain.
## </summary>
## <param name="domain">
##	<summary>
##	Domain allowed to transition.
##	</summary>
## </param>
#

interface(`polaris_cli_fs_cmds_domtrans',`
    gen_require(
        type polaris_cli_fs_cmds_t, polaris_cli_fs_cmds_exec_t;
    )

    corecmd_search_bin($1)
domtrans_pattern($1, polaris_cli_fs_cmds_exec_t, polaris_cli_fs_cmds_t)
)
##### <summary>
##### Read file /tmp/pkg_summary.txt file
##### </summary>
##### <param name="domain">
##### <summary>
##### Domain allowed access.
##### </summary>
##### </param>
#
# interface('polaris_pkg_summary_tmp_read',
#    gen_require(
#        type polaris_pkg_summary_tmp_t;
#    )
#    read_files_pattern($1, polaris_pkg_summary_tmp_t, polaris_pkg_summary_tmp_t)
#)

##### <summary>
##### read the contents of /tmp/show_provision_temp
##### </summary>
##### <param name="domain">
##### <summary>
##### Domain allowed access.
##### </summary>
##### </param>
#
# interface('polaris_show_provision_tmp_read',
#    gen_require(
#        type polaris_show_provision_tmp_t;
#    )
#    read_files_pattern($1, polaris_show_provision_tmp_t, polaris_show_provision_tmp_t)
#)

##### <summary>
##### manage the contents of /tmp/show_provision_temp
##### </summary>
##### <param name="domain">
##### <summary>
##### Domain allowed access.
##### </summary>
##### </param>
#
# interface('polaris_show_provision_temp_manage',
#    gen_require(
#        type polaris_show_provision_tmp_t;
#    )
manage_files_pattern($1, polaris_show_provision_tmp_t, polaris_show_provision_tmp_t)
manage_lnk_files_pattern($1, polaris_show_provision_tmp_t, polaris_show_provision_tmp_t)
manage_dirs_pattern($1, polaris_show_provision_tmp_t, polaris_show_provision_tmp_t)
files_tmp_filetrans($1, polaris_show_provision_tmp_t, { file dir })

')

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarishm.if
No license file was found, but licenses were detected in source scan.

#
# October 2019, Patrick O'Halloran
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscrft, 1.0);

# persistent CRFT files stored under crft_data
type polaris_crft_data_t;
files_type(polaris_crft_data_t)

# allow crft data file reside on persistent storage
polaris_pfile_type(polaris_crft_data_t)

attribute polaris_crft_data_domain;

type attribute polaris_crft_data_t polaris_crft_data_domain;

# Start of mcp_crft_request context elements
polaris_utility_domain_template(crft_request)

# smand calls the mcp_crft_request.sh in bexec context
polaris_bexecute_domtrans(polaris_crft_request_t)
polaris_bexecute_domain(polaris_crft_request_t, polaris_crft_request_exec_t)

# read the cpld information
polaris_cpld_read(polaris_crft_request_t)

# dev/tty access as part of bexec operations
telnet_use_ptys(polaris_crft_request_t)

# filesystem attributes for df /
fs_getattr_xattr_fs(polaris_crft_request_t)

# btrace used in script uses these
polaris_btrace_tmppub_manage(polaris_crft_request_t)
polaris_use_btrace_fifo(polaris_crft_request_t)

# read /proc/rmonbif0 files such as env_var.sh
polaris_rmonbif0_tmp_read(polaris_crft_request_t)

# read /tmp/sw/boot/base_pkg
polaris_boot_tmp_manage(polaris_crft_request_t)

# ufs information captured by the chasfs utils
ifdef(`ngwc_family',`
optional_policy(`
polaris_ncd_tmp_manage(polaris_crft_request_t)
')
')
# scripts read /proc/cmdline
kernel_read_system_state(polaris_crft_request_t)

# ping the vrf
netutils_domtrans_ping(polaris_crft_request_t)
sysnet_domtrans_ifconfig(polaris_crft_request_t)

# rsync operations for members and standby rps
gen_require(`
    type rsync_exec_t;
    type rsync_port_t;
')
allow polaris_crft_request_t rsync_exec_t:file { execute execute_no_trans getattr map open read };
allow polaris_crft_request_t rsync_port_t:tcp_socket name_connect;

# access to /etc/hosts for rp/members information
gen_require(`
    type net_conf_t;
')
files_etc_filetrans(polaris_crft_request_t, net_conf_t, file, "hosts")
auth_use_nsswitch(polaris_crft_request_t)

# execute the bash script
corecmd_exec_bin(polaris_crft_request_t)
# net namespace filesystem
fs_read_nsfs_files(polaris_crft_request_t)
polaris_chasfs_manage(polaris_crft_request_t)

# script also accesses the persistent files from crft
polaris_persistent_manage(polaris_crft_request_t)
polaris_crft_data_manage_all(polaris_crft_request_t)

# ping operations via ip netns
gen_require('   type ifconfig_t;
')
netutils_domtrans_ping(ifconfig_t)

# Curl accesses from IoT boxes like petra/sparrow
gen_require('   type polaris_curl_t;
   type polaris_iosd_t;
')
allow polaris_curl_t polaris_crft_request_t:process sigchld;

# handle mktemp creation and cleanup
files_manage_generic_tmp_dirs(polaris_crft_request_t)
allow polaris_crft_request_t self:capability sys_resource;

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscrft.te
No license file was found, but licenses were detected in source scan.

#
# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polarispsvp, 1.0);
polaris_process_domain_template(psvp)

# transition to pman domain, once pman is invoked by psvp
polaris_pman_domtrans(polaris_psvp_t)
# transition to pvp domain, once pvp is invoked by psvp
polaris_pvp_domtrans(polaris_psvp_t)
corecmd_exec_bin(polaris_psvp_t)
corecmd_exec_shell(polaris_psvp_t)
# can execute process in polaris domain
polaris_exec(polaris_psvp_t)

# LOOK AT ME start-stop-daemon from busy box iterates all
# /proc/<pid> directories and reads /proc/<pid>/cmdline
# /proc/<pid>/exe. Ie it need quite a bit of priviledges
domain_read_all_domains_state(polaris_psvp_t)

# another issue of running busybox start-stop-daemon under
# psvp_t label
# type=AVC msg=audit(1480527500.482:46): avc: denied { sys_ptrace } for pid=14853 comm="start-stop-daem"
capability=19 scontext=system_u:system_r:polaris_psvp_t:s0 tcontext=system_u:system_r:polaris_psvp_t:s0
tclass=capability
allow polaris_psvp_t self:capability sys_ptrace;

# allow to read /proc/meminfo
kernel_read_system_state(polaris_psvp_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_psvp_t)

# run ldd, which in turns execve "ld.so --verify"
libs_exec_ld_so(polaris_psvp_t)

# work with /tmp files
type polaris_psvp_tmp_t;
files_tmp_file(polaris_psvp_tmp_t)
manage_dirs_pattern(polaris_psvp_t, tmp_t, polaris_psvp_tmp_t)
manage_files_pattern(polaris_psvp_t, polaris_psvp_tmp_t, polaris_psvp_tmp_t)
manage_fifo_files_pattern(polaris_psvp_t, polaris_psvp_tmp_t, polaris_psvp_tmp_t)
files_tmp_filetrans(polaris_psvp_t, polaris_psvp_tmp_t, { file dir })
filetrans_pattern(domain, tmp_t, polaris_psvp_tmp_t, dir, "psvp")

ifdef(`ngwc_family',`
# also need to be able to ls /tmp/ufs/ on ngwc
optional_policy(`
polaris_ncd_tmp_read(polaris_psvp_t)
')
')

# note split entry another psvp capability listed above
allow polaris_psvp_t self:capability sys_resource;

polaris_pvp_getattrs_tmp_dirs(polaris_psvp_t)
dmidecode_domtrans(polaris_psvp_t)
polaris_btrace_data_manage(polaris_psvp_t)
polaris_chasfs_manage(polaris_psvp_t)
polaris_cpld_read(polaris_psvp_t)
polaris_cpld_write(polaris_psvp_t)
polaris_rmonbifo_tmp_read(polaris_psvp_t)
polaris_tlddb_list_dirs(polaris_psvp_t)
polaris_boot_tmp_read(polaris_psvp_t)
polaris_disk_crashinfo_getattr(polaris_psvp_t)
polaris_flashlib_read(polaris_psvp_t)
polaris_read_debug_conf(polaris_psvp_t)

allow polaris_psvp_t self:capability dac_override;

# watch /tmp/sai/psvp
allow polaris_psvp_t polaris_psvp_tmp_t:dir watch;

# creates /tmp/sai/pvp/rp/run_stg2
polaris_pvp_manage_tmp_files(polaris_psvp_t)

# Allow /tmp/ufs/bootflash & /tmp/ufs/harddisk read access
ifdef(`vwlc_platform',`
  optional_policy(
    polaris_ncd_tmp_read(polaris_psvp_t)
  )
)

# permissions during shutdown
polaris_pvp_manage_tmp_files(polaris_psvp_t);

Found in path(s):
  */opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarispsvp.te
No license file was found, but licenses were detected in source scan.

#
# July 2017, Victor Kamensky
#
# Copyright (c) 2017-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polaristamdrp, 1.0);

gen_require(`
  type polaris_tamd_rp_t;
  )

polaris_btrace_data_manage(polaris_tamd_rp_t)
polaris_crft_data_manage(polaris_tamd_rp_t)
polaris_chasfs_manage(polaris_tamd_rp_t)
polaris_tldresolve_read(polaris_tamd_rp_t)
polaris_tlddb_list_dirs(polaris_tamd_rp_t)
polaris_flashlib_read(polaris_tamd_rp_t)
logging_send_syslog_msg(polaris_tamd_rp_t)

# allow read of /etc/passwd
auth_use_nsswitch(polaris_tamd_rp_t)

polaris_cpld_read(polaris_tamd_rp_t)
polaris_cpld_write(polaris_tamd_rp_t)
polaris_quack_dev_use(polaris_tamd_rp_t)

# tmp file for udi authentication
type polaris_tamd_rp_tmp_t;
files_tmp_file(polaris_tamd_rp_tmp_t);
files_tmp_filetrans(polaris_tamd_rp_tmp_t, polaris_tamd_rp_tmp_t, file, "tam_uid_validation")
manage_files_pattern(polaris_tamd_rp_t, polaris_tamd_rp_tmp_t, polaris_tamd_rp_tmp_t)
polaris_cm_rp_tmp_manage(polaris_tamd_rp_t)

# hybrid tam needs access to /objstore/.swtam
gen_require(')
    type polaris_disk_objstore_t;
    type root_t;
')
filetrans_pattern(polaris_tamd_rp_t, root_t, polaris_disk_objstore_t, dir, "objstore")
manage_dirs_pattern(polaris_tamd_rp_t, polaris_disk_objstore_t, polaris_disk_objstore_t)
polaris_disk_objstore_manage(polaris_tamd_rp_t)

# need access to dash fpga to read/write TAM
optional_policy(')
    polaris_dash_dev_use(polaris_tamd_rp_t)
')

#access to /dev/dash_fpga device on fugazi platform
ifdef('fugazi_platform','
polaris_dash_dev_mcp_use(polaris_tamd_rp_t)
')

allow polaris_tamd_rp_t self:capability net_admin;

# LOOK AT ME tamd_rp needs shell access to do something like this
# sh -c "echo 0x04 > /sys/devices/platform/cpld/reg_rp_reset_control"
# need to rework into simple open,write,close
corecmd_exec_shell(polaris_tamd_rp_t)

# LOOK AT ME access should be restricted after /flash/dummy_check is removed,
# which is tracked under CSCvh68866. Allow access to bootflash till then.
polaris_bootflash_read(polaris_tamd_rp_t)

optional_policy(  
# Allow /dev/dmammap access  
polaris_dmammap_dev_use(polaris_tamd_rp_t)  
')

# LOOK AT ME: /dev/mem access restriction  
polaris_dev_mem_use(polaris_tamd_rp_t)

optional_policy(  
polaris_ngwc_shm_manage(polaris_tamd_rp_t)  
')

optional_policy(  
polaris_remap_mem_dev_use(polaris_tamd_rp_t)  
')

polaris_cpld_dev_use(polaris_tamd_rp_t)

optional_policy(  
# allow access to /sys/devices/virtual/misc/ggpio/gpio_out_assert  
polaris_ggpio_dev_read_write(polaris_tamd_rp_t)  
')

optional_policy(  
    polaris_quake_i2c_manage(polaris_tamd_rp_t)  
')

# /dev/aikido access  
polaris_aikido_dev_use(polaris_tamd_rp_t)

# tamlib debug file access  
polaris_tamlib_dbg_file_manage(polaris_tamd_rp_t)

# tam gpio sysfs access  
optional_policy(  
    dev_rw_sysfs(polaris_tamd_rp_t)  
')

ifdef('petra_platform',`
# allow access to /dev/i2c-0 for hash value  
polaris_i2c_use(polaris_tamd_rp_t)  
')

Found in path(s):  
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polaristamdrp.te
No license file was found, but licenses were detected in source scan.

# March 2017, Victor Kamensky
#
# Copyright (c) 2016-2019 by Cisco Systems, Inc.
# All rights reserved
#

/usr/bin/os/conf/sort_files_by_inode.sh -- gen_context(system_u:object_r:polaris_sort_files_exec_t,s0)

Found in path(s):
  * /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polarissortfiles.fc

No license file was found, but licenses were detected in source scan.

# February 2020, Victor Kamensky
#
# Copyright (c) 2020-2021 by Cisco Systems, Inc.
# All rights reserved
#

policy_module(polariscedgestart, 1.0);

gen_require(
    type polaris_cedge_start_t;
')

polaris_chasfs_manage(polaris_cedge_start_t)
polaris_boot_tmp_read(polaris_cedge_start_t)
polaris_bootflash_manage(polaris_cedge_start_t)
polaris_cpld_read(polaris_cedge_start_t)
polaris_flashlib_read(polaris_cedge_start_t)
polaris_rmonbifo_tmp_read(polaris_cedge_start_t)
polaris_btrace_tmppub_read(polaris_cedge_start_t)

# needed by install_util.sh
polaris_read_packages_conf(polaris_cedge_start_t)

corecmd_exec_bin(polaris_cedge_start_t)
corecmd_exec_shell(polaris_cedge_start_t)
auth_use_nsswitch(polaris_cedge_start_t)

polaris_dmi_ports_fetch_domtrans(polaris_cedge_start_t)

# runs ps -C cfgmgr -o pid=
# ps needs access to proc_t
kernel_read_system_state(polaris_cedge_start_t)
# ps needs access to state of all domains
domain_read_all_domains_state(polaris_cedge_start_t)
# "ps" needs read access to /sys/devices/system/cpu/online
# "ps" needs read access to /proc/uptime
dev_read_sysfs(polaris_cedge_start_t)

# runs vip-confd-startup.sh needs transition into polaris_confid_t domain
polaris_confid_domtrans(polaris_cedge_start_t)

# runs systemctl start logrotate.service
systemd_exec_systemctl(polaris_cedge_start_t)

# manage /etc/viptela
polaris_cedge etc manage(polaris_cedge_start_t)

# runs install_assist.sh
polaris_install_engine domtrans(polaris_cedge_start_t)

# write /bootflash/.installer/images/pkg_boot_17.3.01/version
polaris_disk_install_manage(polaris_cedge_start_t)
gen_require(`
   type polaris_disk_install_t;
`)
# du -s /bootflash/.installer/images/pkg_boot_17.3.01/confd0/cdb
allow polaris_cedge_start_t polaris_disk_install_t:filesystem getattr;

# chown -R binos /bootflash/sdwan
fs_getattr_xattr_fs(polaris_cedge_start_t)

allow polaris_cedge_start_t self:capability { chown fowner net_admin };

# PLEASE LOOK AT ME cedge_start.sh modifies set of directories that
# are supposed to be read only, like usr_t, etc_t, root_t
files_rw_usr_dirs(polaris_cedge_start_t)
gen_require(`
   type usr_t;
`)
manage_lnk_files_pattern(polaris_cedge_start_t, usr_t, usr_t)
libs_manage_lib_dirs(polaris_cedge_start_t)
gen_require(`
   type lib_t;
`)
manage_lnk_files_pattern(polaris_cedge_start_t, lib_t, lib_t)
files_manage etc symlinks(polaris_cedge_start_t)
files_manage var symlinks(polaris_cedge_start_t)
# creates /home directory in root
gen_require(`
   type root_t;
`
')
manage_dirs_pattern(polaris_cedge_start_t, root_t, root_t)
manage_lnk_files_pattern(polaris_cedge_start_t, root_t, root_t)

# creates /var/log/sdwan
gen_require(
    type var_log_t;
')
manage_dirs_pattern(polaris_cedge_start_t, var_log_t, var_log_t)
manage_lnk_files_pattern(polaris_cedge_start_t, var_log_t, var_log_t)
corecmd_manage_bin_files(polaris_cedge_start_t)

# PLEASE LOOK AT ME copy unit files into /lib/systemd/system
# cp /tmp/sw/rp/0/0/rp_daemons/mount/lib/systemd/system/logrotate.service /lib/systemd/system
gen_require(
    type systemd_unit_file_t;
')
read_lnk_files_pattern(polaris_cedge_start_t, systemd_unit_file_t, systemd_unit_file_t)

# PLEASE LOOK AT ME need to have separate label for logrotate.service
# allow only to start if, do it once copy of logrotate.service is fixed
systemd_config_generic_services(polaris_cedge_start_t)
init_start(polaris_cedge_start_t)

# creates /var/log/confd
polaris_confd_var_log_manage(polaris_cedge_start_t)

# executes touch /etc/resolv.conf for case when it is missing
# check create_etc_resolv_conf make sure that it becomes net_conf_t
gen_require(
    type net_conf_t;
')
files_etc_filetrans(polaris_cedge_start_t, net_conf_t, file, "resolv.conf")
sysnet_create_config(polaris_cedge_start_t)
sysnet_write_config(polaris_cedge_start_t)

# creates /var/confd0 when box boots with startup config disabled
polaris_confd_var_filetrans(polaris_cedge_start_t, dir, "confd0")
polaris_confd_var_dir_manage(polaris_cedge_start_t)

# During controller-mode enablement/bringup,
# viptela scripts are not loaded as part of the base packages.
# viptela-start.sh script takes care of creating these references.
# It creates softlink copies them as below to desired location depending on the packaging (mono vs subpackage).
# "cp $PKG_PATH/lib/systemd/system/logrotate.service /lib/systemd/system"
# Below policy statement allow copy access needed for viptela-logrotate.sh
# for updating /lib/systemd/system and /usr/binos/conf path
write_files_pattern(polaris_cedge_start_t, systemd_unit_file_t, systemd_unit_file_t)

# While creating softlink as below
# "ln -sf SPKG_PATH/usr/binos/conf/viptela-logrotate.sh /usr/binos/conf/viptela-logrotate.sh"
# As the ln command tries to create the new link, it removes the already existing link.
# ln deletes the file associated with the path name if this path name is the last link to the file.
# If ln can't get rid of the conflicting path name, it does not attempt to establish the new link.
# If ln successfully removes the conflicting path name, it then establishes the link.
# delete file permissions are hence needed for ln command to perform unlinking previous link
files_delete_etc_files(polaris_cedge_start_t)

# During cEdge upgrade, viptela-start.sh needs permissions to maintain the
# state of roll back timer in /bootflash/.rollback_timer/*
polaris_rbtimer_bootflash_manage(polaris_cedge_start_t)

#Nutella-XE - Vedge image install
#/bin/bash /tmp/sw/rp/0/0/rp_security/mount/usr/binos/conf/viptela-start.sh
mount_domtrans(polaris_cedge_start_t)

Found in path(s):
* /opt/cola/permits/1103963160_1615183271.1/0/selinux-tar/selinux/polariscedgestart.te

1.18 grep 3.3
1.18.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <https://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.
TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.
A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains
in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:
a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.
"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place
additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.
8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an
organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a
publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF
ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS
THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY
GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE
USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF
DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD
PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS),
EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF
SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
You should have received a copy of the GNU General Public License along with this program. If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

```
<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see <https://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <https://www.gnu.org/licenses/why-not-lgpl.html>.

## 1.19 shadow 4.6

### 1.19.1 Available under license:

NOTE:
This license has been obsoleted by the change to the BSD-style copyright.
You may continue to use this license if you wish, but you are under no obligation to do so.

(*)
This document is freely plagiarised from the ‘Artistic Licence’,
distributed as part of the Perl v4.0 kit by Larry Wall, which is available from most major archive sites. I stole it from CrackLib.

$Id$
*)

This documents purpose is to state the conditions under which this
Package (See definition below) viz: "Shadow", the Shadow Password Suite which is held by Julianne Frances Haugh, may be copied, such that the copyright holder maintains some semblance of artistic control over the development of the package, while giving the users of the package the right to use and distribute the Package in a more-or-less customary fashion, plus the right to make reasonable modifications.

So there.

***************************************************************************

Definitions:

A "Package" refers to the collection of files distributed by the Copyright Holder, and derivatives of that collection of files created through textual modification, or segments thereof.

"Standard Version" refers to such a Package if it has not been modified, or has been modified in accordance with the wishes of the Copyright Holder.

"Copyright Holder" is whoever is named in the copyright or copyrights for the package.

"You" is you, if you're thinking about copying or distributing this Package.

"Reasonable copying fee" is whatever you can justify on the basis of media cost, duplication charges, time of people involved, and so on. (You will not be required to justify it to the Copyright Holder, but only to the computing community at large as a market that must bear the fee.)

"Freely Available" means that no fee is charged for the item itself, though there may be fees involved in handling the item. It also means that recipients of the item may redistribute it under the same conditions they received it.

1. You may make and give away verbatim copies of the source form of the Standard Version of this Package without restriction, provided that you duplicate all of the original copyright notices and associated disclaimers.

2. You may apply bug fixes, portability fixes and other modifications derived from the Public Domain or from the Copyright Holder. A Package modified in such a way shall still be considered the Standard Version.
3. You may otherwise modify your copy of this Package in any way, provided that you insert a prominent notice in each changed file stating how and when AND WHY you changed that file, and provided that you do at least ONE of the following:

   a) place your modifications in the Public Domain or otherwise make them Freely Available, such as by posting said modifications to Usenet or an equivalent medium, or placing the modifications on a major archive site such as uunet.uu.net, or by allowing the Copyright Holder to include your modifications in the Standard Version of the Package.

   b) use the modified Package only within your corporation or organization.

   c) rename any non-standard executables so the names do not conflict with standard executables, which must also be provided, and provide separate documentation for each non-standard executable that clearly documents how it differs from the Standard Version.

   d) make other distribution arrangements with the Copyright Holder.

4. You may distribute the programs of this Package in object code or executable form, provided that you do at least ONE of the following:

   a) distribute a Standard Version of the executables and library files, together with instructions (in the manual page or equivalent) on where to get the Standard Version.

   b) accompany the distribution with the machine-readable source of the Package with your modifications.

   c) accompany any non-standard executables with their corresponding Standard Version executables, giving the non-standard executables non-standard names, and clearly documenting the differences in manual pages (or equivalent), together with instructions on where to get the Standard Version.

   d) make other distribution arrangements with the Copyright Holder.

5. You may charge a reasonable copying fee for any distribution of this Package. You may charge any fee you choose for support of this Package. **YOU MAY NOT CHARGE A FEE FOR THIS PACKAGE ITSELF.** However, you may distribute this Package in aggregate with other (possibly commercial) programs as part of a larger (possibly commercial) software distribution provided that **YOU DO NOT ADVERTISE** this package as a product of your own.

6. The name of the Copyright Holder may not be used to endorse or
promote products derived from this software without specific prior written permission.

7. THIS PACKAGE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The End

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
675 Mass Ave, Cambridge, MA 02139, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.
2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the
(Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS
1.20 c-ares 1.14.0

1.20.1 Available under license:

# c-ares license

Copyright (c) 2007 - 2018, Daniel Stenberg with many contributors, see AUTHORS file.

Copyright 1998 by the Massachusetts Institute of Technology.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of M.I.T. not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. M.I.T. makes no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

1.21 libxslt 1.1.33

1.21.1 Available under license:

DocBk XML V3.1.7 DTD
Copyright (C) 1998, 1999 Norman Walsh
http://nwalsh.com/docbook/xml/

You may distribute this DTD under the same terms as DocBook.

Please direct all questions and comments about this DTD to Norman Walsh, <ndw@nwalsh.com>.

This DTD is based on the DocBook V3.1 DTD from OASIS:


Permission to use, copy, modify and distribute the DocBook DTD and its accompanying documentation for any purpose and without fee is hereby granted in perpetuity, provided that the above copyright notice and this paragraph appear in all copies. The copyright holders make no representation about the suitability of the DTD for any purpose. It is provided
"as is" without expressed or implied warranty.

For more information about the DocBook DTD, see http://www.oasis-open.org/docbook/

Licence for libxslt except libexslt

------------------------------------------------------------------------

Copyright (C) 2001-2002 Daniel Veillard. All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is fur-
nished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FIT-
NESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
DANIEL VEILLARD BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CON-
NECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of Daniel Veillard shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from him.

------------------------------------------------------------------------

Licence for libexslt

------------------------------------------------------------------------

Copyright (C) 2001-2002 Thomas Broyer, Charlie Bozeman and Daniel Veillard.
All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is fur-
nished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FIT-
NESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CON-
NECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the authors shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from him.

<html><head>
<meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1">
<title>Copyright</title><link rel="stylesheet" href="reference.css" type="text/css">
<meta name="generator" content="DocBook XSL Stylesheets V1.37"></head><body bgcolor="white" text="black" link="#0000FF" vlink="#840084" alink="#0000FF"><div class="legalnotice"><p class="legalnotice-title"><b>Copyright</b></p><p>Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation files
(the &amp;#8220;Software&amp;#8221;), to deal in the Software without
restriction, including without limitation the rights to use, copy,
modify, merge, publish, distribute, sublicense, and/or sell copies of
the Software, and to permit persons to whom the Software is furnished
to do so, subject to the following conditions:
</p><p>The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.</p><p>Except as contained in this notice, the names of individuals
credited with contribution to this software shall not be used in
advertising or otherwise to promote the sale, use or other dealings in
this Software without prior written authorization from the individuals
in question.</p><p>Any stylesheet derived from this Software that is publically
distributed will be identified with a different name and the version
strings in any derived Software will be changed so that no possibility
of confusion between the derived package and this Software will
exist.</p></div></body></html>

Simplified DocBook XML V4.1.2.4 DTD
Copyright (C) 1999, 2000 Norman Walsh
http://nwalsh.com/docbook/simple/

You may distribute this DTD under the same terms as DocBook.

Please direct all questions and comments about this DTD to
Norman Walsh, &lt;ndw@nwalsh.com&gt;.

This DTD is based on the DocBook XML V4.1.2 DTD from OASIS:

O'Reilly &amp; Associates, Inc., ArborText, Inc., Fujitsu Software
Corporation, Norman Walsh, and the Organization for the
Advancement of Structured Information Standards (OASIS).
Permission to use, copy, modify and distribute the DocBook DTD and its accompanying documentation for any purpose and without fee is hereby granted in perpetuity, provided that the above copyright notice and this paragraph appear in all copies. The copyright holders make no representation about the suitability of the DTD for any purpose. It is provided "as is" without expressed or implied warranty.

For more information about the DocBook DTD, see http://www.oasis-open.org/docbook/
Simplified DocBk XML V3.1.7.1 DTD
Copyright (C) 1999 Norman Walsh
http://nwalsh.com/docbook/simple/

You may distribute this DTD under the same terms as DocBook.

Please direct all questions and comments about this DTD to Norman Walsh, <ndw@nwalsh.com>.

This DTD is based on the DocBk XML DTD, which is in turn based on the DocBook V3.1 DTD from OASIS:


Permission to use, copy, modify and distribute the DocBook DTD and its accompanying documentation for any purpose and without fee is hereby granted in perpetuity, provided that the above copyright notice and this paragraph appear in all copies. The copyright holders make no representation about the suitability of the DTD for any purpose. It is provided "as is" without expressed or implied warranty.

For more information about the DocBook DTD, see http://www.oasis-open.org/docbook/

1.22 sqlite 3.29.0
1.22.1 Available under license:
The author disclaims copyright to this source code. In place of a legal notice, here is a blessing:

May you do good and not evil.
May you find forgiveness for yourself and forgive others.
May you share freely, never taking more than you give.

1.23 kmod 25-16.el8

1.23.1 Available under license:

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification").

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated
interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

   c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

   d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

   (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must...
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference
directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you
7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

   a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

   b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.> Copyright (C) <year> <name of author>
This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

**GNU GENERAL PUBLIC LICENSE**

**TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION**

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.
If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

LGPL

1.24 systemd 239-43.el8
1.24.1 Available under license :

Found license 'GNU Lesser General Public License' in '# systemd is free software; you can redistribute it and/or modify it # under the terms of the GNU Lesser General Public License as published by # the Free Software Foundation; either version 2.1 of the License, or # (at your option) any later version. # All rights reserved'

Found license 'GNU Lesser General Public License' in '# All rights reserved # systemd is free software; you can redistribute it and/or modify it # under the terms of the GNU Lesser General Public License as published by # the Free Software Foundation; either version 2.1 of the License, or # (at your option) any later version.'

Found license 'GNU Lesser General Public License' in '# All rights reserved # systemd is free software; you can redistribute it and/or modify it # under the terms of the GNU Lesser General Public License as published by # the Free Software Foundation; either version 2.1 of the License, or # (at your option) any later version.'
1.25 pax-utils 1.2.4-r0

1.25.1 Available under license:

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
   51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.
2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License.  (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the
Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS
How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

1.26 libidn 2.2.0

1.26.1 Available under license :
Libidn2 COPYING -- Licensing information. --*- outline -*-
Copyright (C) 2011-2016 Simon Josefsson
See the end for copying conditions.

The source code for the C library (libidn2.a or libidn.so) are
licensed under the terms of either the GNU General Public License
version 2.0 or later (see the file COPYINGv2) or the GNU Lesser
General Public License version 3.0 or later (see the file
COPYING.LESSERV3), or both in parallel as here.

The command line tool, self tests, examples, and other auxiliary
files, are licensed under the GNU General Public License version 3.0
or later.

The license of the Unicode character data files (which are parsed into
static storage in the library) are documented in COPYING.unicode.

Other files are licensed as indicated in each file.

There may be exceptions to these general rules, see each file for
precise information.

This file is free software: you can redistribute it and/or modify it
under the terms of the GNU General Public License as published by the
Free Software Foundation, either version 3 of the License, or (at your
option) any later version.

This file is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
General Public License for more details.

You should have received a copy of the GNU General Public License
along with this file. If not, see <http://www.gnu.org/licenses/>.
A. Unicode Copyright.

Copyright 1991-2016 Unicode, Inc. All rights reserved.

Certain documents and files on this website contain a legend indicating that "Modification is permitted." Any
person is hereby authorized, without fee, to modify such documents and files to create derivative works conforming
to the Unicode Standard, subject to Terms and Conditions herein.

Any person is hereby authorized, without fee, to view, use, reproduce, and distribute all documents and files solely
for informational purposes and in the creation of products supporting the Unicode Standard, subject to the Terms
and Conditions herein.

Further specifications of rights and restrictions pertaining to the use of the particular set of data files known as the
"Unicode Character Database" can be found in the License.

Each version of the Unicode Standard has further specifications of rights and restrictions of use. For the book
editions (Unicode 5.0 and earlier), these are found on the back of the title page. The online code charts carry specific
restrictions. All other files, including online documentation of the core specification for Unicode 6.0 and later, are
covered under these general Terms of Use.

No license is granted to "mirror" the Unicode website where a fee is charged for access to the "mirror" site.
Modification is not permitted with respect to this document. All copies of this document must be verbatim.

B. Restricted Rights Legend.

Any technical data or software which is licensed to the United States of America, its agencies and/or
instrumentalities under this Agreement is commercial technical data or commercial computer software developed
exclusively at private expense as defined in FAR 2.101, or DFARS 252.227-7014 (June 1995), as applicable. For
technical data, use, duplication, or disclosure by the Government is subject to restrictions as set forth in DFARS
202.227-7015 Technical Data, Commercial and Items (Nov 1995) and this Agreement. For Software, in accordance
with FAR 12-212 or DFARS 227-7202, as applicable, use, duplication or disclosure by the Government is subject to
the restrictions set forth in this Agreement.

C. Warranties and Disclaimers.

This publication and/or website may include technical or typographical errors or other inaccuracies. Changes are
periodically added to the information herein; these changes will be incorporated in new editions of the publication
and/or website. Unicode may make improvements and/or changes in the product(s) and/or program(s) described in
this publication and/or website at any time.

If this file has been purchased on magnetic or optical media from Unicode, Inc. the sole and exclusive remedy for
any claim will be exchange of the defective media within ninety (90) days of original purchase.

EXCEPT AS PROVIDED IN SECTION C.2, THIS PUBLICATION AND/OR SOFTWARE IS PROVIDED "AS
IS" WITHOUT WARRANTY OF ANY KIND EITHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING,
BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR
PURPOSE, OR NON-INFRINGEMENT. UNICODE AND ITS LICENSORS ASSUME NO RESPONSIBILITY
FOR ERRORS OR OMISSIONS IN THIS PUBLICATION AND/OR SOFTWARE OR OTHER DOCUMENTS
WHICH ARE REFERENCED BY OR LINKED TO THIS PUBLICATION OR THE UNICODE WEBSITE.

D. Waiver of Damages.

In no event shall Unicode or its licensors be liable for any special, incidental, indirect or consequential damages of
any kind, or any damages whatsoever, whether or not Unicode was advised of the possibility of the damage,
including, without limitation, those resulting from the following: loss of use, data or profits, in connection with the use, modification or distribution of this information or its derivatives.

E. Trademarks & Logos.

The Unicode Word Mark and the Unicode Logo are trademarks of Unicode, Inc. The Unicode Consortium and Unicode, Inc. are trade names of Unicode, Inc. Use of the information and materials found on this website indicates your acknowledgement of Unicode, Inc.s exclusive worldwide rights in the Unicode Word Mark, the Unicode Logo, and the Unicode trade names.

The Unicode Consortium Name and Trademark Usage Policy (Trademark Policy) are incorporated herein by reference and you agree to abide by the provisions of the Trademark Policy, which may be changed from time to time in the sole discretion of Unicode, Inc.

All third party trademarks referenced herein are the property of their respective owners.

F. Miscellaneous.

Jurisdiction and Venue. This server is operated from a location in the State of California, United States of America. Unicode makes no representation that the materials are appropriate for use in other locations. If you access this server from other locations, you are responsible for compliance with local laws. This Agreement, all use of this site and any claims and damages resulting from use of this site are governed solely by the laws of the State of California without regard to any principles which would apply the laws of a different jurisdiction. The user agrees that any disputes regarding this site shall be resolved solely in the courts located in Santa Clara County, California. The user agrees said courts have personal jurisdiction and agree to waive any right to transfer the dispute to any other forum.

Modification by Unicode Unicode shall have the right to modify this Agreement at any time by posting it to this site. The user may not assign any part of this Agreement without Unicodes prior written consent.

Taxes. The user agrees to pay any taxes arising from access to this website or use of the information herein, except for those based on Unicodes net income.

Severability. If any provision of this Agreement is declared invalid or unenforceable, the remaining provisions of this Agreement shall remain in effect.

Entire Agreement. This Agreement constitutes the entire agreement between the parties.

EXHIBIT 1

Unicode Data Files include all data files under the directories

Unicode Data Files do not include PDF online code charts under the directory http://www.unicode.org/Public/.


NOTICE TO USER: Carefully read the following legal agreement.
BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S
DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"),
YOU UNEQUIVOCALLY ACCEPT, AND AGREE TO BE BOUND BY, ALL OF THE
TERMS AND CONDITIONS OF THIS AGREEMENT.
IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE
THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2016 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining
a copy of the Unicode data files and any associated documentation
(the "Data Files") or Unicode software and any associated documentation
(the "Software") to deal in the Data Files or Software
without restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, and/or sell copies of
the Data Files or Software, and to permit persons to whom the Data Files
or Software are furnished to do so, provided that either
(a) this copyright and permission notice appear with all copies
of the Data Files or Software, or
(b) this copyright and permission notice appear in associated
Documentation.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF
ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE
WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT OF THIRD PARTY RIGHTS.
IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS
NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL
DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE,
DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder
shall not be used in advertising or otherwise to promote the sale,
use or other dealings in these Data Files or Software without prior
written authorization of the copyright holder.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such
The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.
10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser General Public License, and the "GNU GPL" refers to version 3 of the GNU General Public License.

"The Library" refers to a covered work governed by this License, other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:
a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.


The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.


You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this
License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)


You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

1.27 file 5.37

1.27.1 Available under license:

Copyright (c) Ian F. Darwin 1986-1995.
Software written by Ian F. Darwin and others;
maintained 1995-present by Christos Zoulas and others.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice immediately at the beginning of the file, without modification, this list of conditions, and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Software written by Ian F. Darwin and others; 
maintained 1994- Christos Zoulas.

This software is not subject to any export provision of the United States 
Department of Commerce, and may be exported to any country or planet.

Redistribution and use in source and binary forms, with or without 
modification, are permitted provided that the following conditions 
are met:
1. Redistributions of source code must retain the above copyright 
   notice immediately at the beginning of the file, without modification, 
   this list of conditions, and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright 
   notice, this list of conditions and the following disclaimer in the 
   documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND 
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE 
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE 
ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR 
ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL 
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS 
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) 
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT 
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY 
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF 
SUCH DAMAGE.

1.28 libodium 1.0.18
1.28.1 Available under license :
/*
 * ISC License
 *
 * Copyright (c) 2013-2019
 * Frank Denis <j at pureftpd dot org>
 *
 * Permission to use, copy, modify, and/or distribute this software for any
 * purpose with or without fee is hereby granted, provided that the above
 * copyright notice and this permission notice appear in all copies.
 * *
 * THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
 * WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
 * MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
 * ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
 * WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
 * ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
 */
1.29 boost NA

1.29.1 Available under license:

This program, "bzip2", the associated library "libbzip2", and all documentation, are copyright (C) 1996-2019 Julian R Seward. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, jseward@acm.org
bzip2/libbzip2 version 1.0.8 of 13 July 2019
Copyright 2018 Peter Dimov

Distributed under the Boost Software License, Version 1.0.

See accompanying file LICENSE_1_0.txt or copy at http://www.boost.org/LICENSE_1_0.txt

---

Copyright 2003-2017 Beman Dawes

* Copyright 2018 Peter Dimov

and is distributed under the http://www.boost.org/LICENSE_1_0.txt[Boost Software License, Version 1.0].

The MIT License (MIT)

Copyright (c) 2014 fqiang

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the “Software”), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright 2018, 2019 Peter Dimov

Distributed under the Boost Software License, Version 1.0.

See accompanying file LICENSE_1_0.txt or copy at http://www.boost.org/LICENSE_1_0.txt
This documentation is copyright 2018, 2019 Peter Dimov and is distributed under the http://www.boost.org/LICENSE_1_0.txt [Boost Software License, Version 1.0].

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Software License, Version 1.0

Copyright 2002-2003, Trustees of Indiana University.
Copyright 2000-2001, University of Notre Dame.
All rights reserved.

Indiana University has the exclusive rights to license this product under the following license.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* All redistributions of source code must retain the above copyright notice, the list of authors in the original source code, this list of conditions and the disclaimer listed in this license;

* All redistributions in binary form must reproduce the above copyright

[#copyright]
# Copyright and License
:idprefix:
notice, this list of conditions and the disclaimer listed in this license
in the documentation and/or other materials provided with the distribution;

* Any documentation included with all redistributions must include the
  following acknowledgement:

  "This product includes software developed at the University of Notre Dame
  and the Pervasive Technology Labs at Indiana University. For technical
  information contact Andrew Lumsdaine at the Pervasive Technology Labs at
  Indiana University. For administrative and license questions contact the
  Advanced Research and Technology Institute at 351 West 10th Street.
  Indianapolis, Indiana 46202, phone 317-278-4100, fax 317-274-5902."

  Alternatively, this acknowledgement may appear in the software itself, and
  wherever such third-party acknowledgments normally appear.

* The name Indiana University, the University of Notre Dame or "Caramel"
  shall not be used to endorse or promote products derived from this software
  without prior written permission from Indiana University. For written
  permission, please contact Indiana University Advanced Research &
  Technology Institute.

* Products derived from this software may not be called "Caramel", nor may
  Indiana University, the University of Notre Dame or "Caramel" appear in
  their name, without prior written permission of Indiana University Advanced
  Research & Technology Institute.

Indiana University provides no reassurances that the source code provided does
not infringe the patent or any other intellectual property rights of any other
entity. Indiana University disclaims any liability to any recipient for claims
brought by any other entity based on infringement of intellectual property
rights or otherwise.

LICENSEE UNDERSTANDS THAT SOFTWARE IS PROVIDED "AS IS" FOR WHICH NO WARRANTIES
AS TO CAPABILITIES OR ACCURACY ARE MADE. INDIANA UNIVERSITY GIVES NO WARRANTIES
AND MAKES NO REPRESENTATION THAT SOFTWARE IS FREE OF INFRINGEMENT OF THIRD
PARTY PATENT, COPYRIGHT, OR OTHER PROPRIETARY RIGHTS. INDIANA UNIVERSITY MAKES
NO WARRANTIES THAT SOFTWARE IS FREE FROM "BUGS", "VIRUSES", "TROJAN HORSES",
"TRAP DOORS", "WORMS", OR OTHER HARMFUL CODE. LICENSEE ASSUMES THE ENTIRE RISK
AS TO THE PERFORMANCE OF SOFTWARE AND/OR ASSOCIATED MATERIALS, AND TO THE
PERFORMANCE AND VALIDITY OF INFORMATION GENERATED USING SOFTWARE.

The following people hereby grant permission to replace all existing
licenses on their contributions to Boost with the Boost Software
License, Version 1.0. (boostinspect:nolicense boostinspect:nocopyright)

Aleksey Gurtovoy (agurtovoy@meta-comm.com)
Andrei Alexandrescu (andrewalex - at - hotmail.com) (See Boost list message of August 12, 2004 11:06:58 AM
EST)
Andrew Lumsdaine ()
Anthony Williams (anthony -at- justsoftwaresolutions.co.uk)
Beman Dawes (bdawes@acm.org)
Brad King (brad.king -at- kitware.com) (See Boost list message of Wed, 21 Jul 2004 11:15:46 -0400)
Brian Osman (osman -at- vvisions.com) (See CVS log)
Bruce Barr (schmoost -at- yahoo.com) (See Boost list of Mon, 16 Aug 2004 15:06:43 -0500)
Bruno da Silva de Oliveira (bruno - at - esss.com.br)
Christain Engstrom (christian.engstrom -at- glindra.org) (See Boost list message of Mon, 30 Aug 2004 14:31:49 +0200)
Cromwell D Enage (sponesia -at- yahoo.com) (See Boost list message of August 12, 2004 11:49:13 AM EST)
Dan Gohman (dig -at- cray.com) (See Boost list message of Sat, 21 Aug 2004 10:54:59 +0100)
Dan Nuffer (dan -at- nuffer.name)
Daniel Frey (d.frey -at- gmx.de, daniel.frey -at- aixigo.de)
Daniel Nuffer (dan -at- nuffer.name)
Darin Adler (darin -at- bentspoon.com) (Email to Andreas Huber, see change log)
Daryle Walker (darylew - at - hotmail.com)
Dave Abrahams (dave@boost-consulting.com)
Dave Moore (dmoore -at- viefiinancial.com) (See Boost list message of 18 Dec 2003 15:35:50 -0500)
David Abrahams (dave@boost-consulting.com)
Dietmar Kuehl (dietmar_kuehl -at- yahoo.com) (Email to Andreas Huber, see change log)
Douglas Gregor (gregod -at- cs.rpi.edu, dgregor -at- cs.indiana.edu, doug.gregor -at- gmail.com)
Dr John Maddock (john - at - johnmaddock.co.uk)
Edward D. Brey (brey -at- ductape.net) (Email to Andreas Huber, see change log)
Eric Ford (un5o6n902 -at- sneakemail.com) (See Boost list message of Sun, 15 Aug 2004 10:29:13 +0100)
Eric Friedman (ebf@users.sourceforge.net)
Eric Niebler (eric@boost-consulting.com)
Fernando Cacciola (fernando_cacciola@ciudad.com.ar)
Fernando Luis Cacciola Carballal (fernando_cacciola@ciudad.com.ar)
Francois Faure (Francois.Faure -at- imag.fr) (See CVS log)
Gary Powell (powellg - at - amazon.com) (See Boost list message of 10 Feb 2004 14:22:46 -0800)
Gennadiy Rozental (rogeeff -at- mail.com) (Email to Andreas Huber, see change log)
Gottfried Ganssauge (Gottfried.Ganssauge -at- HAUFE.DE) (See Boost List message of Mon, 16 Aug 2004
10:09:19 +0200)
Gottfried Gansauge (Gottfried.Ganssauge -at- HAUFE.DE) (Alternative spelling of Gottfried Ganssauge)
Greg Colvin (gregory.colvin -at- oracle.com) (See Boost list message of Sat, 14 Aug 2004 10:57:00 +0100)
Gregory Colvin (gregory.colvin -at- oracle.com) (See Boost list message of Sat, 14 Aug 2004 10:57:00 +0100)
Gunter Winkler (gunter.winkler -at- unibw-muenchen.de) (See Boost List message of Mon, 16 Aug 2004
10:24:17 +0200)
Hartmut Kaiser (hartmut.kaiser -at- gmail.com)
Herve Bronnimann (hbr -at- poly.edu)
Herv Brnnimann (hbr -at- poly.edu)
Housemarque Oy (Ilari Kuitinen ilari.kuitinen -at- housemarque.fi)
Howard Himnant (hinnant -at- twcny.rr.com) (See Boost list message of July 25, 2004 3:44:49 PM EST)
Hubert Holin (hubert_holin -at- users.sourceforge.net)
Indiana University ()
Itay Maman (imaman -at- users.sourceforge.net)
Jaakko Jrvi (jajarvi -at- osl.ii.edu)
Jaap Suter (j.suter -at- student.utwente.nl) (See Boost list message of Thu, 16 Sep 2004 09:32:43 -0700)
Jeff Garland (jeff - at - crystalclearsoftware.com) (see Boost list post of July 25, 2004 19:31:09 -0700)
Jens Maurer (Jens.Maurer@gmx.net)
Jeremy G Siek (jsiek@osl.iu.edu)
Jeremy Siek (jsiek@osl.iu.edu)
Joel de Guzman (joel -at- boost-consulting.com) (See Boost list message of July 25, 2004 8:32:00 PM EST)
John Bandela (jbandela-at-ufi.edu)
John Maddock (john - at - johnmaddock.co.uk)
John R Bandela (jbandela-at-ufi.edu)
Jonathan Turkanis (turkanis -at- coderage dot com)
Juergen Hunold (hunold -at- ive.uni-hannover.de) (See Boost List Message of Fri, 13 Aug 2004 19:39:55 +0200)
Kevlin Henney (kevlin -at- curbralan.com) (See Boost list message of Wed, 15 Sep 2004 18:15:17 +0200)
Kresimir Fresl (fresl -at- master.grad.hr) (See Boost List message of August 16, 2004 8:23:35 AM EST)
Lars Gullik Bijnnes (larsbj -at- lyx.org) (See Boost list message of Tue, 17 Aug 2004 15:49:02 +0100)
Lie-Quan Lee (liequan - at - slac.stanford.edu, llee - at - cs.indiana.edu)
Maarten Keijzer (mkeijzer -at- cs.vu.nl) (See Boost list message of Wed, 18 Aug 2004 21:43:18 +0100)
Mac Murrett (mmurrett -at- mac.com)
Marc W internmantel (wintermantel -at- imes.mavt.ethz.ch, wintermantel -at- even-ag.ch) (See CVS log)
Michael Glassford (glassfordm - at - hotmail.com)
Michael Stevens (Michael.Stevens - at - epost.de)
Multi Media Ltd. (pdimov@mmltd.net)
Nicolai M Josuttis (solutions -at- josuttis.com) (See Boost list message of Mon, 30 Aug 2004 10:52:00 +0100)
Nikolay Mladenov (nickm -at- sitius.com) (See Boost list message of Tue, 17 Aug 2004 15:45:33 +0100)
Paul Mensonides (pmenso57 -at- comcast.net) (See Boost list message of July 21, 2004 1:12:21 AM EST)
Pavol Droba (droba -at- topmail.sk)
Peter Dimov (pdimov@mmltd.net)
R W Grosse-Kunstleve (RWGrosse-Kunstleve@lbl.gov)
Ralf W. Grosse-Kunstleve (RWGrosse-Kunstleve@lbl.gov)
Rational Discovery LLC (Greg Landrum Landrum -at- RationalDiscovery.com) (See Boost list post of Tue, 17 Aug 2004 10:35:36 +0100)
Rene Rivera (grafik/redshift- software.com, rrvera/acm.org)
Robert Ramey (ramey@www.rrsd.com)
Roland Richter (roland -at- filll.jku.at) (See Boost list post of Mon, 16 Aug 2004 22:16:55 +0200)
Roland Schwarz (roland.schwarz -at- chello.at)
Ronald Garcia (garcia -at- cs.indiana.edu) (Email to Andreas Huber, see change log)
Samuel Kremp (krempp -at- crans.ens-cachan.fr) (See Boost list message of Mon, 27 Sep 2004 13:18:36 +0200)
Stefan Seefeld (seefeld -at- sympatico.ca)
Stephen Cleary (scleary -at- jerviswebb.com) (See Boost list message of Tue, 28 Sep 2004 13:11:46 +0100)
Steve Cleary (Variant of Stephen Cleary)
Sylvain Pion (Sylvain.Pion - at - sophia.inria.fr)
The Trustees of Indiana University ()
Thomas Witt (witt - at - ive.uni-hannover.de, witt - at - acm.org, witt - at - styleadvisor.com)
Thorsten Jrgen Ottosen (nesotto - at - cs.auc.dk)
Thorsten Ottosen (nesotto - at - cs.auc.dk)
Toon Knapen (toon dot knapen - at - ftt.be)
The Trustees of Indiana University ()
University of Notre Dame ()
Vladimir Prus (ghost@cs.msu.su)
William E. Kempf () (email to Beman Dawes, 9/14/2006 4:18 PM)
The header `<boost/mp11/mpl.hpp>`, when included, defines the necessary support infrastructure for `mp_list` and `std::tuple` to be valid.

NOTE: `mpl.hpp` is not included by `<boost/mp11.hpp>`.

It's also possible to only enable support for `mp_list` by including `<boost/mp11/mpl_list.hpp>`, and for `std::tuple` by including `<boost/mp11/mpl_tuple.hpp>`. This may be required because some libraries, such as Boost.Fusion, contain their own MPL support for `std::tuple`, which conflicts with Mp11’s one.
License
=======

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization
obtaining a copy of the software and accompanying documentation covered by
this license (the "Software") to use, reproduce, display, distribute,
execute, and transmit the Software, and to prepare derivative works of the
Software, and to permit third-parties to whom the Software is furnished to
do so, all subject to the following:

The copyright notices in the Software and this entire statement, including
the above license grant, this restriction and the following disclaimer,
must be included in all copies of the Software, in whole or in part, and
all derivative works of the Software, unless such copies or derivative
works are solely in the form of machine-executable object code generated by
a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT
SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE
FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE,
 ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
Use of this software is granted under one of the following two licenses,
to be chosen freely by the user.


Copyright (c) 2006, 2007 Marcin Kalicinski

Permission is hereby granted, free of charge, to any person or organization
obtaining a copy of the software and accompanying documentation covered by
this license (the "Software") to use, reproduce, display, distribute,
execute, and transmit the Software, and to prepare derivative works of the
Software, and to permit third-parties to whom the Software is furnished to
do so, all subject to the following:

The copyright notices in the Software and this entire statement, including
the above license grant, this restriction and the following disclaimer,
must be included in all copies of the Software, in whole or in part, and
all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

2. The MIT License

Copyright (c) 2006, 2007 Marcin Kalicinski

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright (c) 2007-2011 Barend Gehrels, Amsterdam, the Netherlands.
Copyright (c) 2008-2011 Bruno Lalande, Paris, France.
Copyright (c) 2009-2011 Mateusz Loskot, London, UK.

Use, modification and distribution is subject to the Boost Software License, Version 1.0. (See accompanying file LICENSE_1_0.txt or copy at http://www.boost.org/LICENSE_1_0.txt)

The default copyright note for C++ source files reads:

// Boost.Geometry (aka GGL, Generic Geometry Library)
Copyright (c) 2007-2011 Barend Gehrels, Amsterdam, the Netherlands.
Copyright (c) 2008-2011 Bruno Lalande, Paris, France.
Copyright (c) 2009-2011 Mateusz Loskot, London, UK.

Parts of Boost.Geometry are redesigned from Geodan's Geographic Library
(geolib/GGL), copyright (c) 1995-2010 Geodan, Amsterdam, the Netherlands.

Use, modification and distribution is subject to the Boost Software License,
Version 1.0. (See accompanying file LICENSE_1_0.txt or copy at
http://www.boost.org/LICENSE_1_0.txt)

Exceptions:
1) Major work of any author -> might change order, change date
2) Exclusive work of one author including design -> might take sole copyright

Examples:
- adapted geometry types e.g. array, Boost.Polygon
- implemented file-format e.g. WKB
- implemented specific strategy or algorithm e.g. intersections
3) Examples -> might take sole copyright
4) Tests -> might take sole copyright
5) Docs -> might take sole copyright
6) Utilities e.g. converters -> might take sole copyright

The copyright note for other (source) files as .py, Jamfiles, etc is similar
and comments are changed accordingly.

Copyright Louis Dionne 2013-2017

Boost Software License - Version 1.0 - August 17th, 2003
Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was debianized by Vladimir Prus <ghost@cs.msu.su> on Wed, 17 July 2002, 19:27:00 +0400.

Copyright:

+/
+\Copyright 1993-2002 Christopher Seiwald and Perforce Software, Inc.
+\/

This is Release 2.4 of Jam/MR, a make-like program.

License is hereby granted to use this software and distribute it freely, as long as this copyright notice is retained and modifications are clearly marked.

ALL WARRANTIES ARE HEREBY DISCLAIMED.

Some portions are also:

Copyright 2001-2006 David Abrahams.
Copyright 2002-2006 Rene Rivera.
Copyright 2003-2006 Vladimir Prus.

Distributed under the Boost Software License, Version 1.0.
(See accompanying file LICENSE_1_0.txt or http://www.boost.org/LICENSE_1_0.txt)
http_parser.c is based on src/http/ngx_http_parse.c from NGINX copyright Igor Sysoev.

Additional changes are licensed under the same terms as NGINX and copyright Joyent, Inc. and other Node contributors. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright 2015-2016 Barrett Adair

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Parts of the navigation implementation were borrowed from the docdock theme, and thus they are copyright as follows:

The MIT License (MIT)

Copyright (c) 2014 Grav
Copyright (c) 2016 MATHIEU CORNIC
Copyright (c) 2017 Valere JEANTET

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright Paul Fultz II 2016-2018

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization
obtaining a copy of the software and accompanying documentation covered by
this license (the "Software") to use, reproduce, display, distribute,
eexecute, and transmit the Software, and to prepare derivative works of the
Software, and to permit third-parties to whom the Software is furnished to
do so, all subject to the following:

The copyright notices in the Software and this entire statement, including
the above license grant, this restriction and the following disclaimer,
must be included in all copies of the Software, in whole or in part, and
all derivative works of the Software, unless such copies or derivative
work are solely in the form of machine-executable object code generated by
a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT
SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE
FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.
Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization
obtaining a copy of the software and accompanying documentation covered by
this license (the "Software") to use, reproduce, display, distribute,
eexecute, and transmit the Software, and to prepare derivative works of the
Software, and to permit third-parties to whom the Software is furnished to
do so, all subject to the following:

The copyright notices in the Software and this entire statement, including
the above license grant, this restriction and the following disclaimer,
must be included in all copies of the Software, in whole or in part, and
all derivative works of the Software, unless such copies or derivative
work are solely in the form of machine-executable object code generated by
a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT
SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE
FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE,
1.30 findutils 4.6.0
1.30.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org />
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.
A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to
control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such
measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).
The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or
authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.
A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.
A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy’s public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary. 
For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

1.31 parted 3.2
1.31.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.
For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this
License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form.
"Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7
additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

"User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the
User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or
author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a)
provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may
not impose a license fee, royalty, or other charge for exercise of
rights granted under this License, and you may not initiate litigation
(including a cross-claim or counterclaim in a lawsuit) alleging that
any patent claim is infringed by making, using, selling, offering for
sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this
License of the Program or a work on which the Program is based. The
work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims
owned or controlled by the contributor, whether already acquired or
hereafter acquired, that would be infringed by some manner, permitted
by this License, of making, using, or selling its contributor version,
but do not include claims that would be infringed only as a
consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant
patent sublicenses in a manner consistent with the requirements of
this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free
patent license under the contributor's essential patent claims, to
make, use, sell, offer for sale, import and otherwise run, modify and
propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express
agreement or commitment, however denominated, not to enforce a patent
(such as an express permission to practice a patent or covenant not to
sue for patent infringement). To "grant" such a patent license to a
party means to make such an agreement or commitment not to enforce a
patent against the party.

If you convey a covered work, knowingly relying on a patent license,
and the Corresponding Source of the work is not available for anyone
to copy, free of charge and under the terms of this License, through a
publicly available network server or other readily accessible means,
then you must either (1) cause the Corresponding Source to be so
available, or (2) arrange to deprive yourself of the benefit of the
patent license for this particular work, or (3) arrange, in a manner
consistent with the requirements of this License, to extend the patent
license to downstream recipients. "Knowingly relying" means you have
actual knowledge that, but for the patent license, your conveying the
covered work in a country, or your recipient's use of the covered work
in a country, would infringe one or more identifiable patents in that
country that you have reason to believe are valid.

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 1219
If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the
14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS),
EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program’s name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c` for details.

The hypothetical commands `show w` and `show c` should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

@c The GNU Free Documentation License.
@c center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@end display

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
@end enumerate

@enumerate 0
@item PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.
We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

@item

APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The ``Document'', below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as ``you''. You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may
be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, \LaTeX{} input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History"). To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty
Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties; any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material.
If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled ``History'' in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the ``History'' section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.

@item
For any section Entitled ``Acknowledgements'' or ``Dedications'', Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.

@item
Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''. Such a section may not be included in the Modified Version.

@item
Do not retile any existing section to be Entitled ``Endorsements'' or to conflict in title with any Invariant Section.
If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties---for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of
Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History'' in the various original documents, forming one section Entitled "History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements."

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special
permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new
versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See @uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License “or any later version” applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

@item

RELICENSING

“Massive Multiauthor Collaboration Site” (or “MMC Site”) means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A “Massive Multiauthor Collaboration” (or “MMC”) contained in the site means any set of copyrightable works thus published on the MMC site.

“CC-BY-SA” means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

“Incorporate” means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is “eligible for relicensing” if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

@end enumerate
ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

```
@smallexample
@group
Copyright (C) @var{year} @var{your name}.
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled ``GNU Free Documentation License''.
@end group
@end smallexample
```

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the `with@dots{}Texts.@:' line with this:

```
@smallexample
@group
with the Invariant Sections being @var{list their titles}, with the Front-Cover Texts being @var{list}, and with the Back-Cover Texts being @var{list}.
@end group
@end smallexample
```

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:
1.32.1 Available under license:

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such
parties remain in full compliance.

5. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Program or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the
Program), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the
Program), the recipient automatically receives a license from the
original licensor to copy, distribute or modify the Program subject to
these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.
To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than 'show w' and 'show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

1.33 libvirt 5.5.0

1.33.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the
The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License.  (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole.  If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works.  But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable
      source code, which must be distributed under the terms of Sections
      1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three
      years, to give any third party, for a charge no more than your
      cost of physically performing source distribution, a complete
      machine-readable copy of the corresponding source code, to be
      distributed under the terms of Sections 1 and 2 above on a medium
      customarily used for software interchange; or,
c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.
GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the
library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.
In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from
such a program is covered only if its contents constitute a work based
on the Library (independent of the use of the Library in a tool for
writing it). Whether that is true depends on what the Library does
and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's
complete source code as you receive it, in any medium, provided that
you conspicuously and appropriately publish on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact
all the notices that refer to this License and to the absence of any
warranty; and distribute a copy of this License along with the
Library.

You may charge a fee for the physical act of transferring a copy,
and you may at your option offer warranty protection in exchange for a
fee.

2. You may modify your copy or copies of the Library or any portion
of it, thus forming a work based on the Library, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices
stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no
charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a
table of data to be supplied by an application program that uses
the facility, other than as an argument passed when the facility
is invoked, then you must make a good faith effort to ensure that,
in the event an application does not supply such function or
table, the facility still operates, and performs whatever part of
its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application. Therefore, Subsection 2d requires that any
application-supplied function or table used by this function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under
Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on
the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

    a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

    b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.
This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

1.34 grpc 1.24.1

1.34.1 Available under license:

Copyright (c) 2013, Dominic Tarr
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice,
this list of conditions and the following disclaimer in the documentation
and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR
ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The views and conclusions contained in the software and documentation are those of the authors and should not be interpreted as representing official policies, either expressed or implied, of the FreeBSD Project.

The MIT License (MIT)

Copyright (c) Feross Aboukhadijeh

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The ISC License

Copyright (c) Isaac Z. Schlueter

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright (c) 2016, Contributors

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.
THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright 2010 James Halliday (mail@substack.net)

This project is free software released under the MIT/X11 license:

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or
otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents
of the NOTICE file are for informational purposes only and
do not modify the License. You may add Your own attribution
notices within Derivative Works that You distribute, alongside
or as an addendum to the NOTICE text from the Work, provided
that such additional attribution notices cannot be construed
as modifying the License.

You may add Your own copyright statement to Your modifications and
may provide additional or different license terms and conditions
for use, reproduction, or distribution of Your modifications, or
for any such Derivative Works as a whole, provided Your use,
reproduction, and distribution of the Work otherwise complies with
the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work
by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions.
Notwithstanding the above, nothing herein shall supersede or modify
the terms of any separate license agreement you may have executed
with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade
names, trademarks, service marks, or product names of the Licensor,
except as required for reasonable and customary use in describing the
origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or
agreed to in writing, Licensor provides the Work (and each
Contributor provides its Contributions) on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or
implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A
PARTICULAR PURPOSE. You are solely responsible for determining the
appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory,
whether in tort (including negligence), contract, or otherwise,
unless required by applicable law (such as deliberate and grossly
negligent acts) or agreed to in writing, shall any Contributor be
liable to You for damages, including any direct, indirect, special,
incidental, or consequential damages of any character arising as a
result of this License or out of the use or inability to use the
Work (including but not limited to damages for loss of goodwill,
work stoppage, computer failure or malfunction, or any and all
other commercial damages or losses), even if such Contributor
has been advised of the possibility of such damages.
9. Accepting Warranty or Additional Liability. While redistributing
the Work or Derivative Works thereof, You may choose to offer,
and charge a fee for, acceptance of support, warranty, indemnity,
or other liability obligations and/or rights consistent with this
License. However, in accepting such obligations, You may act only
on Your own behalf and on Your sole responsibility, not on behalf
of any other Contributor, and only if You agree to indemnify,
defend, and hold each Contributor harmless for any liability
incurred by, or claims asserted against, such Contributor by reason
of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following
boilerplate notice, with the fields enclosed by brackets "[]"
replaced with your own identifying information. (Don't include
the brackets!) The text should be enclosed in the appropriate
comment syntax for the file format. We also recommend that a
file or class name and description of purpose be included on the
same "printed page" as the copyright notice for easier
identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License);
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

   https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

Copyright (c) 2009-2011, Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
* Neither the name of Google Inc. nor the names of any other
contributors may be used to endorse or promote products
derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY GOOGLE INC. ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO
EVENT SHALL GOOGLE INC. BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER
IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
 ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.
This software is dual-licensed under the ISC and MIT licenses.
You may use this software under EITHER of the following licenses.

--------

The ISC License

Copyright (c) Isaac Z. Schlueter and Contributors

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR
IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

--------

Copyright Isaac Z. Schlueter and Contributors
All rights reserved.

Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software without
restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Lunit License
-------------

Lunit is written by Michael Roth <mroth@nessie.de> and is licensed under the terms of the MIT license reproduced below.

========================================================================
Copyright (c) 2004-2010 Michael Roth <mroth@nessie.de>
Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

========================================================================

Apache License, Version 2.0

Copyright (c) 2011 Dominic Tarr
Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

   http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

MIT License

Copyright (c) 2013 Julian Gruber <julian@juliangruber.com>

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

Copyright (c) Fork, Ltd.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The ISC License

Copyright (c) Isaac Z. Schlueter and Contributors

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

## Glob Logo

Glob's logo created by Tanya Brassie <http://tanyabrassie.com/>, licensed under a Creative Commons Attribution-ShareAlike 4.0 International License https://creativecommons.org/licenses/by-sa/4.0/

BoringSSL is a fork of OpenSSL. As such, large parts of it fall under OpenSSL licensing. Files that are completely new have a Google copyright and an ISC license. This license is reproduced at the bottom of this file.

Contributors to BoringSSL are required to follow the CLA rules for Chromium: https://cla.developers.google.com/clas

Files in third_party/ have their own licenses, as described therein. The MIT license, for third_party/fiat, which, unlike other third_party directories, is compiled into non-test libraries, is included below.

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org.

The following are Google-internal bug numbers where explicit permission from some authors is recorded for use of their work. (This is purely for our own record keeping.)

27287199
27287880
27287883
OpenSSL License

/* ====================================================================
 * Copyright (c) 1998-2011 The OpenSSL Project. All rights reserved.
 * 
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 * 
 * 1. Redistributions of source code must retain the above copyright
 * notice, this list of conditions and the following disclaimer.
 * 
 * 2. Redistributions in binary form must reproduce the above copyright
 * notice, this list of conditions and the following disclaimer in
 * the documentation and/or other materials provided with the
 * distribution.
 * 
 * 3. All advertising materials mentioning features or use of this
 * software must display the following acknowledgment:
 * "This product includes software developed by the OpenSSL Project
 * for use in the OpenSSL Toolkit (http://www.openssl.org/)"
 * 
 * 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
 * endorse or promote products derived from this software without
 * prior written permission. For written permission, please contact
 * openssl-core@openssl.org.
 * 
 * 5. Products derived from this software may not be called "OpenSSL"
 * nor may "OpenSSL" appear in their names without prior written
 * permission of the OpenSSL Project.
 * 
 * 6. Redistributions of any form whatsoever must retain the following
 * acknowledgment:
 * "This product includes software developed by the OpenSSL Project
 * for use in the OpenSSL Toolkit (http://www.openssl.org/)"
 * 
 * THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
 * EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
 * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
 * PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
 * ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
 * SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
 * NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
 * LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
 * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
 * STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ====================================================================
*
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com). This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/

Original SSLeay License
-----------------------
/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
 * All rights reserved.
 *
 * This package is an SSL implementation written
 * by Eric Young (eay@cryptsoft.com).
 * The implementation was written so as to conform with Netscapes SSL.
 *
 * This library is free for commercial and non-commercial use as long as
 * the following conditions are adhered to. The following conditions
 * apply to all code found in this distribution, be it the RC4, RSA,
 * lhash, DES, etc., code; not just the SSL code. The SSL documentation
 * included with this distribution is covered by the same copyright terms
 * except that the holder is Tim Hudson (tjh@cryptsoft.com).
 *
 * Copyright remains Eric Young's, and as such any Copyright notices in
 * the code are not to be removed.
 * If this package is used in a product, Eric Young should be given attribution
 * as the author of the parts of the library used.
 * This can be in the form of a textual message at program startup or
 * in documentation (online or textual) provided with the package.
 *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 * 1. Redistributions of source code must retain the copyright
 * notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright
 * notice, this list of conditions and the following disclaimer in the
 * documentation and/or other materials provided with the distribution.
 * 3. All advertising materials mentioning features or use of this software
 * must display the following acknowledgement:
 * "This product includes cryptographic software written by
 * Eric Young (eay@cryptsoft.com)"
 * The word 'cryptographic' can be left out if the routines from the library
 * being used are not cryptographic related :-).
 */
* 4. If you include any Windows specific code (or a derivative thereof) from
  * the apps directory (application code) you must include an acknowledgement:
  * "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
  *
  * THIS SOFTWARE IS PROVIDED BY ERIC YOUNG "AS IS" AND
  * ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
  * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
  * ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
  * FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
  * DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
  * OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
  * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
  * LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
  * OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
  * SUCH DAMAGE.
  *
  * The licence and distribution terms for any publically available version or
  * derivative of this code cannot be changed. i.e. this code cannot simply be
  * copied and put under another distribution licence
  * [including the GNU Public Licence.]
  */

ISC license used for completely new code in BoringSSL:

/* Copyright (c) 2015, Google Inc.
 *
 * Permission to use, copy, modify, and/or distribute this software for any
 * purpose with or without fee is hereby granted, provided that the above
 * copyright notice and this permission notice appear in all copies.
 *
 * THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
 * WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
 * MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY
 * SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
 * WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION
 * OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
 * CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE. */

The code in third_party/fiat carries the MIT license:

Copyright (c) 2015-2016 the fiat-crypto authors (see

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

Licenses for support code
-------------------------

Parts of the TLS test suite are under the Go license. This code is not included
in BoringSSL (i.e. libcrypto and libssl) when compiled, however, so
distributing code linked against BoringSSL does not trigger this license:

Copyright (c) 2009 The Go Authors. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
  copyright notice, this list of conditions and the following disclaimer
  in the documentation and/or other materials provided with the
distribution.
* Neither the name of Google Inc. nor the names of its
  contributors may be used to endorse or promote products derived from
  this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT
OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

BoringSSL uses the Chromium test infrastructure to run a continuous build, trybots etc. The scripts which manage this, and the script for generating build metadata, are under the Chromium license. Distributing code linked against BoringSSL does not trigger this license.

Copyright 2015 The Chromium Authors. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THE SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The MIT License (MIT)

Copyright (c) 2015-2016 the fiat-crypto authors (see https://github.com/mit-plv/fiat-crypto/blob/master/AUTHORS).

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:
The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

# c-ares license

Copyright (c) 2007 - 2018, Daniel Stenberg with many contributors, see AUTHORS file.

Copyright 1998 by the Massachusetts Institute of Technology.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of M.I.T. not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. M.I.T. makes no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

Copyright 2008, Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT
LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The MIT License

Copyright (c) 2011 Dominic Tarr

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright (c) 2011 Alexander Shtuchkin

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 2010-2011, Ethan Rublee
Copyright (c) 2011-2014, Andrey Kamaev
Copyright (c) 2014, Pavel Rojtberg
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice,
   this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice,
   this list of conditions and the following disclaimer in the documentation
   and/or other materials provided with the distribution.

3. Neither the name of the copyright holder nor the names of its
   contributors may be used to endorse or promote products derived from this
   software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

Copyright 2014 gRPC authors.

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
Copyright (c) 2015 TJ Holowaychuk <tj@vision-media.ca>

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
The ISC License

Copyright (c) Isaac Z. Schlueter and Contributors

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR
IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

====

`String.fromCodePoint` by Mathias Bynens used according to terms of MIT
License, as follows:

Copyright Mathias Bynens <https://mathiasbynens.be/>

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The MIT License (MIT)

Copyright (c) Sindre Sorhus <sindresorhus@gmail.com> (sindresorhus.com)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The ISC License

Copyright (c) Isaac Z. Schlueter

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Apache License

Version 2.0, January 2004

http://www.apache.org/licenses/
1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and
(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions
of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "{}" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright {yyyy} {name of copyright owner}

Licensed under the Apache License, Version 2.0 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0
Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

The ISC License

Copyright (c) Isaac Z. Schlueter and Contributors

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR
IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The ISC License

Copyright (c) npm, Inc. and Contributors

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR
IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

(The MIT License)

Copyright (c) 2014 Nathan Rajlich <nathan@tootallnate.net>

Permission is hereby granted, free of charge, to any person
obtaining a copy of this software and associated documentation
files (the "Software"), to deal in the Software without
restriction, including without limitation the rights to use,
copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following
conditions:
The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

(The MIT License)

Copyright (c) 2014 TJ Holowaychuk <tj@vision-media.ca>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the 'Software'), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED 'AS IS', WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The ISC License

Copyright (c) 2015, Contributors

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
# Copyright (c) 2015 Calvin Metcalf

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

**THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.**

(MIT)

Copyright (c) 2013 Julian Gruber &lt;julian@juliangruber.com&gt;

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright (c), Mapbox

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of node-pre-gyp nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Node.js is licensed for use as follows:

```text
****
Copyright Node.js contributors. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
```

This license applies to parts of Node.js originating from the https://github.com/joyent/node repository:
Copyright Joyent, Inc. and other Node contributors. All rights reserved. Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright (c) 2015, Rebecca Turner <me@re-becca.org>

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright (c) 2014, Rebecca Turner <me@re-becca.org>

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The MIT License (MIT)
Copyright (c) 2013-2018, Viacheslav Lotsmanov

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of
the Software, and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS
FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER
IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

MIT License

Copyright (c) 2018 Nikita Skovoroda <chalkerx@gmail.com>

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of
the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

This software is released under the MIT license:

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of
the Software, and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:
The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 2015, Rebecca Turner

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
The ISC License

Copyright (c) Isaac Z. Schlueter and Contributors

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

----

This library bundles a version of the `fs.realpath` and `fs.realpathSync` methods from Node.js v0.10 under the terms of the Node.js MIT license.

Node's license follows, also included at the header of `old.js` which contains the licensed code:

Copyright Joyent, Inc. and other Node contributors.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Minizlib was created by Isaac Z. Schlueter.
It is a derivative work of the Node.js project.

----

Copyright Isaac Z. Schlueter and Contributors
Copyright Node.js contributors. All rights reserved.
Copyright Joyent, Inc. and other Node contributors. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright Node.js contributors. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The MIT License (MIT)

Copyright (c) 2016 Zeit, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.
"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise,
any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.
To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

1.35 nettle 3.5.1

1.35.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and
modifications follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.
A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not
convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:
a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded
from the Corresponding Source as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.
"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own
removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions;
the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.
An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone
to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM
IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type 'show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

1.36 procps 3.3.15
1.36.1 Available under license :

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION
0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the library LGPL. It is
numbered 2 because it goes with version 2 of the ordinary GPL.]
Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it. You can use it for your libraries, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this,
we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized
party saying it may be distributed under the terms of this Library
General Public License (also called "this License"). Each licensee is
addressed as "you".

A "library" means a collection of software functions and/or data
prepared so as to be conveniently linked with application programs
(which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work
which has been distributed under these terms. A "work based on the
Library" means either the Library or any derivative work under
copyright law: that is to say, a work containing the Library or a
portion of it, either verbatim or with modifications and/or translated
straightforwardly into another language. (Hereinafter, translation is
included without limitation in the term "modification").

"Source code" for a work means the preferred form of the work for
making modifications to it. For a library, complete source code means
all the source code for all modules it contains, plus any associated
interface definition files, plus the scripts used to control compilation
and installation of the library.

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running a program using the Library is not restricted, and output from
such a program is covered only if its contents constitute a work based
on the Library (independent of the use of the Library in a tool for
writing it). Whether that is true depends on what the Library does
and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's
complete source code as you receive it, in any medium, provided that
you conspicuously and appropriately publish on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact
all the notices that refer to this License and to the absence of any
warranty; and distribute a copy of this License along with the
Library.

You may charge a fee for the physical act of transferring a copy,
and you may at your option offer warranty protection in exchange for a
fee.

2. You may modify your copy or copies of the Library or any portion
of it, thus forming a work based on the Library, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.
b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the
Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the
Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may
distribute the object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or
link a "work that uses the Library" with the Library to produce a
work containing portions of the Library, and distribute that work
under terms of your choice, provided that the terms permit
modification of the work for the customer's own use and reverse
engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the
Library is used in it and that the Library and its use are covered by
this License. You must supply a copy of this License. If the work
during execution displays copyright notices, you must include the
copyright notice for the Library among them, as well as a reference
directing the user to the copy of this License. Also, you must do one
of these things:

a) Accompany the work with the complete corresponding
machine-readable source code for the Library including whatever
changes were used in the work (which must be distributed under
Sections 1 and 2 above); and, if the work is an executable linked
with the Library, with the complete machine-readable "work that
uses the Library", as object code and/or source code, so that the
user can modify the Library and then relink to produce a modified
executable containing the modified Library. (It is understood
that the user who changes the contents of definitions files in the
Library will not necessarily be able to recompile the application
to use the modified definitions.)

b) Accompany the work with a written offer, valid for at
least three years, to give the same user the materials
specified in Subsection 6a, above, for a charge no more
than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy
from a designated place, offer equivalent access to copy the above
specified materials from the same place.

d) Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the
Library" must include any data and utility programs needed for
reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

   a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

   b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that
everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.

You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

1.37 zlib 1.2.3
1.37.1 Available under license:
/* zlib.h -- interface of the 'zlib' general purpose compression library
   version 1.1.4, March 11th, 2002

Copyright (C) 1995-2002 Jean-loup Gailly and Mark Adler
This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly           Mark Adler
jloup@gzip.org             madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files ftp://ds.internic.net/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format).

/*
 /* match.s -- Pentium-optimized version of longest_match()
 * Written for zlib 1.1.2
 * Copyright (C) 1998 Brian Raiter <breadbox@muppetlabs.com>
 *
 * This is free software; you can redistribute it and/or modify it
 * under the terms of the GNU General Public License.
 */

1.38 libtls-standalone 2.9.1-r0

1.38.1 Available under license:

libtls is ISC licensed as per OpenBSD's normal licensing policy.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

1.39 libxml 2.9.9

1.39.1 Available under license:
Except where otherwise noted in the source code (e.g. the files hash.c, list.c and the trio files, which are covered by a similar licence but with different Copyright notices) all the files are:

Copyright (C) 1998-2012 Daniel Veillard. All Rights Reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

1.40 glibc 2.30

1.40.1 Available under license:
@c The GNU Lesser General Public License.
@center Version 2.1, February 1999

@c This file is intended to be included within another document,
c@c hence no sectioning command or @node.

display
Copyright @copyright{ } 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]
@end display

@subheading Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software---to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software---typically libraries---of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original...
author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the Lesser General Public License because it does less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.
Although the Lesser General Public License is less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

@subheading TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@enumerate 0
@item
This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

@item
You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- The modified work must itself be a software library.
- You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

@item You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

@item You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not compelled to copy the source along with the object code.

@item
A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

@item
As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference
Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

@item
You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

@enumerate a
@item
Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

@item
Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
@end enumerate

@item
You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

@item
You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

@item
The Free Software Foundation may publish revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
``any later version'', you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

@item
If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

@center @b{NO WARRANTY}

@item
BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY ``AS IS'' WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

@item
IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.
@end enumerate

@end subheading END OF TERMS AND CONDITIONS

@subheading How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest
possible use to the public, we recommend making it free software that
everyone can redistribute and change. You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the
ordinary General Public License).

To apply these terms, attach the following notices to the library. It is
safest to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

@example
@var{one line to give the library's name and an idea of what it does.}
Copyright (C) @var{year}  @var{name of author}
This library is free software; you can redistribute it and/or modify it
under the terms of the GNU Lesser General Public License as published by
the Free Software Foundation; either version 2.1 of the License, or (at
your option) any later version.

This library is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301,
USA.
@end example

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

@example
@end example
Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

@var{signature of Ty Coon}, 1 April 1990
Ty Coon, President of Vice
@end smallexample

That's all there is to it!
Copyright 1992, 1993, 1994, 1997 Henry Spencer. All rights reserved.
This software is not subject to any license of the American Telephone and Telegraph Company or of the Regents of the University of California.

Permission is granted to anyone to use this software for any purpose on any computer system, and to alter it and redistribute it, subject to the following restrictions:

1. The author is not responsible for the consequences of use of this software, no matter how awful, even if they arise from flaws in it.

2. The origin of this software must not be misrepresented, either by explicit claim or by omission. Since few users ever read sources, credits must appear in the documentation.

3. Altered versions must be plainly marked as such, and must not be misrepresented as being the original software. Since few users ever read sources, credits must appear in the documentation.

4. This notice may not be removed or altered.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.
If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

```
Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

```
GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change
free software—to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages—typically libraries—of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.
Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.
GNU LESSER GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.
2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

   c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

   d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

   (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.
3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.
If such an object file uses only numerical parameters, data
structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
work. (Executables containing this object code plus portions of the
Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may
distribute the object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or
link a "work that uses the Library" with the Library to produce a
work containing portions of the Library, and distribute that work
under terms of your choice, provided that the terms permit
modification of the work for the customer's own use and reverse
engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the
Library is used in it and that the Library and its use are covered by
this License. You must supply a copy of this License. If the work
during execution displays copyright notices, you must include the
copyright notice for the Library among them, as well as a reference
directing the user to the copy of this License. Also, you must do one
of these things:

a) Accompany the work with the complete corresponding
machine-readable source code for the Library including whatever
changes were used in the work (which must be distributed under
Sections 1 and 2 above); and, if the work is an executable linked
with the Library, with the complete machine-readable "work that
uses the Library", as object code and/or source code, so that the
user can modify the Library and then relink to produce a modified
executable containing the modified Library. (It is understood
that the user who changes the contents of definitions files in the
Library will not necessarily be able to recompile the application
to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the
Library. A suitable mechanism is one that (1) uses at run time a
copy of the library already present on the user's computer system,
rather than copying library functions into the executable, and (2)
will operate properly with a modified version of the library, if
the user installs one, as long as the modified version is
interface-compatible with the version that the work was made with.
c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies,
or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.
This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>  
Copyright (C) <year>  <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.
Ty Coon, President of Vice

That's all there is to it!

This file contains the copying permission notices for various files in the GNU C Library distribution that have copyright owners other than the Free Software Foundation. These notices all require that a copy of the notice be included in the accompanying documentation and be distributed with binary distributions of the code, so be sure to include this file along with any binary distributions derived from the GNU C Library.

All code incorporated from 4.4 BSD is distributed under the following license:

Copyright (C) 1991 Regents of the University of California.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. [This condition was removed.]
4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The DNS resolver code, taken from BIND 4.9.5, is copyrighted by UC Berkeley, by Digital Equipment Corporation and by Internet Software Consortium. The DEC portions are under the following license:
Portions Copyright (C) 1993 by Digital Equipment Corporation.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies, and that the name of Digital Equipment Corporation not be used in advertising or publicity pertaining to distribution of the document or software without specific, written prior permission.

THE SOFTWARE IS PROVIDED ``AS IS'' AND DIGITAL EQUIPMENT CORP. DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The ISC portions are under the following license:

Portions Copyright (c) 1996-1999 by Internet Software Consortium.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

The Sun RPC support (from rpcsrc-4.0) is covered by the following license:

Copyright (c) 2010, Oracle America, Inc.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials
provided with the distribution.
* Neither the name of the "Oracle America, Inc." nor the names of its
contributors may be used to endorse or promote products derived
from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following CMU license covers some of the support code for Mach,
derived from Mach 3.0:

Mach Operating System
All Rights Reserved.

Permission to use, copy, modify and distribute this software and its
documentation is hereby granted, provided that both the copyright
notice and this permission notice appear in all copies of the
software, derivative works or modified versions, and any portions
thereof, and that both notices appear in supporting documentation.

CARNEGIE MELLON ALLOWS FREE USE OF THIS SOFTWARE IN ITS "AS IS"
CONDITION. CARNEGIE MELLON DISCLAIMS ANY LIABILITY OF ANY KIND FOR
ANY DAMAGES WHATSOEVER RESULTING FROM THE USE OF THIS SOFTWARE.

Carnegie Mellon requests users of this software to return to

Software Distribution Coordinator
School of Computer Science
Carnegie Mellon University
Pittsburgh PA 15213-3890

or Software.Distribution@CS.CMU.EDU any improvements or
extensions that they make and grant Carnegie Mellon the rights to
redistribute these changes.
The file if_ppp.h is under the following CMU license:

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY CARNEGIE MELLON UNIVERSITY AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE UNIVERSITY OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The following license covers the files from Intel's "Highly Optimized Mathematical Functions for Itanium" collection:

Intel License Agreement

Copyright (c) 2000, Intel Corporation

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* The name of Intel Corporation may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL INTEL OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The files inet/getnameinfo.c and sysdeps/posix/getaddrinfo.c are copyright (C) by Craig Metz and are distributed under the following license:

/* The Inner Net License, Version 2.00

The author(s) grant permission for redistribution and use in source and binary forms, with or without modification, of the software and documentation provided that the following conditions are met:

0. If you receive a version of the software that is specifically labelled as not being for redistribution (check the version message and/or README), you are not permitted to redistribute that version of the software in any way or form.
1. All terms of the all other applicable copyrights and licenses must be followed.
2. Redistributions of source code must retain the authors' copyright notice(s), this list of conditions, and the following disclaimer.
3. Redistributions in binary form must reproduce the authors' copyright notice(s), this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution.
4. [The copyright holder has authorized the removal of this clause.]
5. Neither the name(s) of the author(s) nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY ITS AUTHORS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON
ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

If these license terms cause you a real problem, contact the author. */

The file sunrpc/des_impl.c is copyright Eric Young:

Copyright (C) 1992 Eric Young
Collected from libdes and modified for SECURE RPC by Martin Kuck 1994
This file is distributed under the terms of the GNU Lesser General
Public License, version 2.1 or later - see the file COPYING.LIB for details.
If you did not receive a copy of the license with this program, please
see <http://www.gnu.org/licenses/> to obtain a copy.

The file inet/rcmd.c is under a UCB copyright and the following:

Copyright (C) 1998 WIDE Project.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors
   may be used to endorse or promote products derived from this software
   without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS ``AS IS'' AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The file posix/runtests.c is copyright Tom Lord:

Copyright 1995 by Tom Lord
1. This software is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

2. The origin of this software must not be misrepresented, either by explicit claim or by omission. In practice, this means that if you use PCRE in software that you distribute to others, commercially or otherwise, you must put a sentence like this

   Regular expression support is provided by the PCRE library package, which is open source software, written by Philip Hazel, and copyright by the University of Cambridge, England. somewhere reasonably visible in your documentation and in any relevant files or online help data or similar. A reference to the ftp site for the source, that is, to

   ftp://ftp.csx.cam.ac.uk/pub/software/programming/pcre/

   should also be given in the documentation. However, this condition is not intended to apply to whole chains of software. If package A includes PCRE, it must acknowledge it, but if package B is software that includes package A, the condition is not imposed on package B (unless it uses PCRE independently).

3. Altered versions must be plainly marked as such, and must not be misrepresented as being the original software.

4. If PCRE is embedded in any software that is released under the GNU General Purpose Licence (GPL), or Lesser General Purpose Licence (LGPL), then the terms of that licence shall supersede any condition above with which it is incompatible.

Files from Sun fdlibm are copyright Sun Microsystems, Inc.:  

Copyright (C) 1993 by Sun Microsystems, Inc. All rights reserved.

Developed at SunPro, a Sun Microsystems, Inc. business. Permission to use, copy, modify, and distribute this software is freely granted, provided that this notice is preserved.  

Various long double libm functions are copyright Stephen L. Moshier:  

Copyright 2001 by Stephen L. Moshier <moshier@na-net.ornl.gov>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, see <http://www.gnu.org/licenses/>. */

UNICODE, INC. LICENSE AGREEMENT - DATA FILES AND SOFTWARE

Unicode Data Files include all data files under the directories http://www.unicode.org/Public/, http://www.unicode.org/reports/, and http://www.unicode.org/cldr/data/. Unicode Data Files do not include PDF online code charts under the directory http://www.unicode.org/Public/.


NOTICE TO USER: Carefully read the following legal agreement. BY DOWNLOADING, INSTALLING, COPYING OR OTHERWISE USING UNICODE INC.'S DATA FILES ("DATA FILES"), AND/OR SOFTWARE ("SOFTWARE"), YOU UNEQUIVOCALLY ACCEPT, AND AGREE TO BE BOUND BY, ALL OF THE TERMS AND CONDITIONS OF THIS AGREEMENT. IF YOU DO NOT AGREE, DO NOT DOWNLOAD, INSTALL, COPY, DISTRIBUTE OR USE THE DATA FILES OR SOFTWARE.

COPYRIGHT AND PERMISSION NOTICE

Copyright 1991-2013 Unicode, Inc. All rights reserved. Distributed under the Terms of Use in http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that (a) the above copyright notice(s) and this permission notice appear with all copies of the Data Files or Software, (b) both the above copyright notice(s) and this permission notice appear in associated documentation, and (c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software that the data or software has been modified.
THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.
@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document @dfn{free} in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 1369
software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The `Document`, below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as `you`. You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A `Modified Version` of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A `Secondary Section` is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The `Invariant Sections` are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The `Cover Texts` are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A `Transparent` copy of the Document means a machine-readable copy, represented in a format whose specification is available to the
general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, La\TeX{\ } input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History"). To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.
VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an
Opaque copy (directly or through your agents or retailers) of that
dition to the public.

It is requested, but not required, that you contact the authors of the
Document well before redistributing any large number of copies, to give
them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under
the conditions of sections 2 and 3 above, provided that you release
the Modified Version under precisely this License, with the Modified
Version filling the role of the Document, thus licensing distribution
and modification of the Modified Version to whoever possesses a copy
of it. In addition, you must do these things in the Modified Version:

@enumerate A
@item
Use in the Title Page (and on the covers, if any) a title distinct
from that of the Document, and from those of previous versions
(which should, if there were any, be listed in the History section
of the Document). You may use the same title as a previous version
if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities
responsible for authorship of the modifications in the Modified
Version, together with at least five of the principal authors of the
Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the
Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in the Addendum below.
@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page. If
there is no section Entitled ``History'' in the Document, create one
stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on. These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles. Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''. Such a section
may not be included in the Modified Version.

@item
Do not retitile any existing section to be Entitled ``Endorsements'' or
to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate
If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties—for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

item

COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History" in the various original documents, forming one section Entitled
"History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements."

@item

COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item

AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

@item

TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the
Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See @uref{http://www.gnu.org/copyleft/}. 
Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License “or any later version” applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

@item

RE LICENSING

“Massive Multiauthor Collaboration Site” (or “MMC Site”) means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A “Massive Multiauthor Collaboration” (or “MMC”) contained in the site means any set of copyrightable works thus published on the MMC site.

“CC-BY-SA” means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

“Incorporate” means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is “eligible for relicensing” if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

@end enumerate

@page

@heading ADDENDUM: How to use this License for your documents
To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

@example
@example
Copyright (C) @year @name.
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled “GNU Free Documentation License”.
@end example
@end example

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the “with @dots{}Texts.” line with this:

@example
@example
with the Invariant Sections being @list their titles, with the Front-Cover Texts being @list, and with the Back-Cover Texts being @list.
@end example
@end example

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

Local Variables:
ispell-local-pdict: "ispell-dict"
End:

1.41 cpio 2.12
1.41.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007
Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer
can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other
parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users
can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.
6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.
A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in
source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.
All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party’s predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor’s "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, selling, offering for sale, or importing the Program or any portion of it, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant
Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor’s essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. “Knowingly relying” means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient’s use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future
versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.
To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License. But first, please read
1.42 readline 7.0 10.el8

1.42.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of
the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs
If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.
This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive the source code. And you must show them these terms so they know their rights.
Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.
A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable
work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or
similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).
The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or
d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.
A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.
A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".
You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document free in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondly, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License
principally for works whose purpose is instruction or reference.

@item

APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The `"Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as `"you". You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A `"Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A `"Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The `"Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The `"Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A `"Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available
drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, TeXinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML. PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History".) To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

@item VERBATIM COPYING
You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

@item

COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.
It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

A

Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.

List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.

State on the Title page the name of the publisher of the Modified Version, as the publisher.

Preserve all the copyright notices of the Document.

Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.

Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.

Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.
@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled ``History'' in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the ``History'' section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.

@item
For any section Entitled ``Acknowledgements'' or ``Dedications'', Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.

@item
Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''. Such a section may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all
of these sections as invariant. To do this, add their titles to the
list of Invariant Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains
nothing but endorsements of your Modified Version by various
parties—for example, statements of peer review or that the text has
been approved by an organization as the authoritative definition of a
standard.

You may add a passage of up to five words as a Front-Cover Text, and a
passage of up to 25 words as a Back-Cover Text, to the end of the list
of Cover Texts in the Modified Version. Only one passage of
Front-Cover Text and one of Back-Cover Text may be added by (or
through arrangements made by) any one entity. If the Document already
includes a cover text for the same cover, previously added by you or
by arrangement made by the same entity you are acting on behalf of,
you may not add another; but you may replace the old one, on explicit
permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License
give permission to use their names for publicity for or to assert or
imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this
License, under the terms defined in section 4 above for modified
versions, provided that you include in the combination all of the
Invariant Sections of all of the original documents, unmodified, and
list them all as Invariant Sections of your combined work in its
license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and
multiple identical Invariant Sections may be replaced with a single
copy. If there are multiple Invariant Sections with the same name but
different contents, make the title of each such section unique by
adding at the end of it, in parentheses, the name of the original
author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of
Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History"
in the various original documents, forming one section Entitled
"History"; likewise combine any sections Entitled "Acknowledgements",
and any sections Entitled "Dedications". You must delete all
sections Entitled "Endorsements."
@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between
the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See @uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License ``or any later version'' applies to it, you have the option of
following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

@item

RELICENSING

``Massive Multiauthor Collaboration Site'' (or ``MMC Site'') means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A ``Massive Multiauthor Collaboration'' (or ``MMC'') contained in the site means any set of copyrightable works thus published on the MMC site.

``CC-BY-SA'' means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

``Incorporate'' means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is ``eligible for relicensing'' if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

@end enumerate

@page

@heading ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:
1.43 libffi 3.1-22.el8

1.43.1 Available under license:
libffi - Copyright (c) 1996-2019 Anthony Green, Red Hat, Inc and others.
See source files for details.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
``Software``), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED ``AS IS'', WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The libffi source distribution contains certain code that is not part
of libffi, and is only used as tooling to assist with the building and
testing of libffi. This includes the msvcc.sh script used to wrap the
Microsoft compiler with GNU compatible command-line options,
make_sunver.pl, and the libffi test code distributed in the
testsuite/libffi.bhaible directory. This code is distributed with
libffi for the purpose of convenience only, and libffi is in no way
derived from this code.

msvcc.sh an testsuite/libffi.bhaible are both distributed under the
terms of the GNU GPL version 2, as below.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.
If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENTPERMITTED BYAPPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
to LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.
Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

1.44 bash 4.2.10
1.44.1 Available under license :

GNU Free Documentation License
Version 1.3, 3 November 2008

<http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

0. PREAMBLE
The purpose of this License is to make a manual, textbook, or other functional and useful document “free” in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

1. APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you". You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.
The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, Texinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.
A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History"). To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties; any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

2. VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

3. COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit
reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

4. MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.
B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.
C. State on the Title page the name of the publisher of the Modified Version, as the publisher.
D. Preserve all the copyright notices of the Document.
E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.
F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the
terms of this License, in the form shown in the Addendum below.

G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.

H. Include an unaltered copy of this License.

I. Preserve the section Entitled "History", Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section.

You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.

K. For any section Entitled "Acknowledgements" or "Dedications", Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.

L. Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.

M. Delete any section Entitled "Endorsements". Such a section may not be included in the Modified Version.

N. Do not retitle any existing section to be Entitled "Endorsements" or to conflict in title with any Invariant Section.

O. Preserve any Warranty Disclaimers.

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains nothing but endorsements of your Modified Version by various parties--for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or
through arrangements made by) any one entity. If the Document already
includes a cover text for the same cover, previously added by you or
by arrangement made by the same entity you are acting on behalf of,
you may not add another; but you may replace the old one, on explicit
permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License
give permission to use their names for publicity for or to assert or
imply endorsement of any Modified Version.

5. COMBINING DOCUMENTS

You may combine the Document with other documents released under this
License, under the terms defined in section 4 above for modified
versions, provided that you include in the combination all of the
Invariant Sections of all of the original documents, unmodified, and
list them all as Invariant Sections of your combined work in its
license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and
multiple identical Invariant Sections may be replaced with a single
copy. If there are multiple Invariant Sections with the same name but
different contents, make the title of each such section unique by
adding at the end of it, in parentheses, the name of the original
author or publisher of that section if known, or else a unique number.
Make the same adjustment to the section titles in the list of
Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History"
in the various original documents, forming one section Entitled
"History"; likewise combine any sections Entitled "Acknowledgements",
and any sections Entitled "Dedications". You must delete all sections
Entitled "Endorsements".

6. COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other
documents released under this License, and replace the individual
copies of this License in the various documents with a single copy
that is included in the collection, provided that you follow the rules
of this License for verbatim copying of each of the documents in all
other respects.

You may extract a single document from such a collection, and
distribute it individually under this License, provided you insert a
copy of this License into the extracted document, and follow this
License in all other respects regarding verbatim copying of that document.

7. AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

8. TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

9. TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

10. FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See http://www.gnu.org/copyleft/.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

11. RELICENSING
"Massive Multiauthor Collaboration Site" (or "MMC Site") means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A "Massive Multiauthor Collaboration" (or "MMC") contained in the site means any set of copyrightable works thus published on the MMC site.

"CC-BY-SA" means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

"Incorporate" means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is "eligible for relicensing" if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

Copyright (c)  YEAR  YOUR NAME.
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the "with...Texts." line with this:

with the Invariant Sections being LIST THEIR TITLES, with the Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST.

If you have Invariant Sections without Cover Texts, or some other
combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.
Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.
2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License.  (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole.  If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works.  But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
to loss of data or data being rendered inaccurate or losses sustained by
you or third parties or a failure of the program to operate with any other
programs), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS
How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
'Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.
Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

**TERMS AND CONDITIONS**

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the
earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all
the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article
11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has
been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or
d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party’s predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.
11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".
You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.
@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
@uref{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document @dfn{free} in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or
whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

@item

APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The ``Document'', below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as ``you''. You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A ``Modified Version'' of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of
pixels) generic paint programs or (for drawings) some widely available
drawing editor, and that is suitable for input to text formatters or
for automatic translation to a variety of formats suitable for input
to text formatters. A copy made in an otherwise Transparent file
format whose markup, or absence of markup, has been arranged to thwart
or discourage subsequent modification by readers is not Transparent.
An image format is not Transparent if used for any substantial amount
of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain
@sc{ascii} without markup, TeXinfo input format, La@TeX{} input
format, @acronym{SGML} or @acronym{XML} using a publicly available
@acronym{DTD}, and standard-conforming simple @acronym{HTML},
PostScript or @acronym{PDF} designed for human modification. Examples
of transparent image formats include @acronym{PNG}, @acronym{XCF} and
@acronym{JPG}. Opaque formats include proprietary formats that can be
read and edited only by proprietary word processors, @acronym{SGML} or
@acronym{XML} for which the @acronym{DTD} and/or processing tools are
not generally available, and the machine-generated @acronym{HTML},
PostScript or @acronym{PDF} produced by some word processors for
output purposes only.

The ``Title Page'' means, for a printed book, the title page itself,
plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page. For works in
formats which do not have any title page as such, ``Title Page'' means
the text near the most prominent appearance of the work's title,
preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies
of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose
title either is precisely XYZ or contains XYZ in parentheses following
text that translates XYZ in another language. (Here XYZ stands for a
specific section name mentioned below, such as ``Acknowledgements'',
``Dedications'', ``Endorsements'', or ``History''). To ``Preserve the Title''
of such a section when you modify the Document means that it remains a
section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which
states that this License applies to the Document. These Warranty
Disclaimers are considered to be included by reference in this
License, but only as regards disclaiming warranties: any other
implication that these Warranty Disclaimers may have is void and has
no effect on the meaning of this License.
VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.
It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

@item
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

@enumerate
@item
Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.

@item
List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.

@item
State on the Title page the name of the publisher of the Modified Version, as the publisher.

@item
Preserve all the copyright notices of the Document.

@item
Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled "History", Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.

@item
For any section Entitled "Acknowledgements" or "Dedications", Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.

@item
Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled "Endorsements". Such a section may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled "Endorsements" or to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material
copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled ``Endorsements'', provided it contains nothing but endorsements of your Modified Version by various parties—for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

@item

COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled ``History'' in the various original documents, forming one section Entitled ``History''; likewise combine any sections Entitled ``Acknowledgements'', and any sections Entitled ``Dedications''. You must delete all
sections Entitled "Endorsements."

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions
of those notices and disclaimers. In case of a disagreement between
the translation and the original version of this License or a notice
or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements",
"Dedications", or "History", the requirement (section 4) to Preserve
its Title (section 1) will typically require changing the actual
title.

@item
TERMINATION

You may not copy, modify, sublicense, or distribute the Document
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense, or distribute it is void, and
will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license
from a particular copyright holder is reinstated (a) provisionally,
unless and until the copyright holder explicitly and finally
terminates your license, and (b) permanently, if the copyright holder
fails to notify you of the violation by some reasonable means prior to
60 days after the cessation.

Moreover, your license from a particular copyright holder is
reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any work) from that
copyright holder, and you cure the violation prior to 30 days after
your receipt of the notice.

Termination of your rights under this section does not terminate the
licenses of parties who have received copies or rights from you under
this License. If your rights have been terminated and not permanently
reinstated, receipt of a copy of some or all of the same material does
not give you any rights to use it.

@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions
of the GNU Free Documentation License from time to time. Such new
versions will be similar in spirit to the present version, but may
differ in detail to address new problems or concerns. See
@uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number.
If the Document specifies that a particular numbered version of this
License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

@item

RELICENSING

"Massive Multiauthor Collaboration Site" (or "MMC Site") means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A "Massive Multiauthor Collaboration" (or "MMC") contained in the site means any set of copyrightable works thus published on the MMC site.

"CC-BY-SA" means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

"Incorporate" means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is "eligible for relicensing" if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

@end enumerate

@page

@heading ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and
1.45 apk-tools 2.10.4 r3

1.45.1 Available under license:

<OWNER> = Regents of the University of California
<ORGANIZATION> = University of California, Berkeley
<YEAR> = 1998

In the original BSD license, both occurrences of the phrase "COPYRIGHT HOLDERS AND CONTRIBUTORS" in the disclaimer read "REGENTS AND CONTRIBUTORS".

Here is the license template:

Copyright (c) <YEAR>, <OWNER>

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
Neither the name of the <ORGANIZATION> nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
1.46 openssl 1.1.1c
1.46.1 Available under license:

LICENSE ISSUES

The OpenSSL toolkit stays under a double license, i.e. both the conditions of
the OpenSSL License and the original SSLeay license apply to the toolkit.
See below for the actual license texts.

OpenSSL License

/****************************************************************************
* Copyright (c) 1998-2019 The OpenSSL Project. All rights reserved.
* *
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* *
* 1. Redistributions of source code must retain the above copyright
* notice, this list of conditions and the following disclaimer.
* *
* 2. Redistributions in binary form must reproduce the above copyright
* notice, this list of conditions and the following disclaimer in
* the documentation and/or other materials provided with the
* distribution.
* *
* 3. All advertising materials mentioning features or use of this
* software must display the following acknowledgment:
* "This product includes software developed by the OpenSSL Project
* for use in the OpenSSL Toolkit. (http://www.openssl.org/)
* *
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
* endorse or promote products derived from this software without
* prior written permission. For written permission, please contact
* openssl-core@openssl.org.
* *
* 5. Products derived from this software may not be called "OpenSSL"
* nor may "OpenSSL" appear in their names without prior written
* permission of the OpenSSL Project.
* *
* 6. Redistributions of any form whatsoever must retain the following
* acknowledgment:
* "This product includes software developed by the OpenSSL Project
* for use in the OpenSSL Toolkit (http://www.openssl.org/)"
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT `AS IS` AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.

* ====================================================================

* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com). This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
* Original SSLeay License

-----------------------

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
 * All rights reserved.
 *
 * This package is an SSL implementation written
 * by Eric Young (eay@cryptsoft.com).
 * The implementation was written so as to conform with Netscapes SSL.
 *
 * This library is free for commercial and non-commercial use as long as
 * the following conditions are aheared to. The following conditions
 * apply to all code found in this distribution, be it the RC4, RSA,
 * lhash, DES, etc., code; not just the SSL code. The SSL documentation
 * included with this distribution is covered by the same copyright terms
 * except that the holder is Tim Hudson (tjh@cryptsoft.com).
 *
 * Copyright remains Eric Young's, and as such any Copyright notices in
 * the code are not to be removed.
 * If this package is used in a product, Eric Young should be given attribution
 * as the author of the parts of the library used.
 * This can be in the form of a textual message at program startup or
 * in documentation (online or textual) provided with the package.
 *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
* 1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software must display the following acknowledgement:
  "This product includes cryptographic software written by
  Eric Young (eay@cryptsoft.com)"
* The word 'cryptographic' can be left out if the routines from the library being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from the apps directory (application code) you must include an acknowledgement:
  "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"

* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

*/

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software...
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

The "Artistic License"

Preamble

The intent of this document is to state the conditions under which a
Package may be copied, such that the Copyright Holder maintains some
semblance of artistic control over the development of the package,
while giving the users of the package the right to use and distribute
the Package in a more-or-less customary fashion, plus the right to make reasonable modifications.

Definitions:

"Package" refers to the collection of files distributed by the Copyright Holder, and derivatives of that collection of files created through textual modification.

"Standard Version" refers to such a Package if it has not been modified, or has been modified in accordance with the wishes of the Copyright Holder as specified below.

"Copyright Holder" is whoever is named in the copyright or copyrights for the package.

"You" is you, if you're thinking about copying or distributing this Package.

"Reasonable copying fee" is whatever you can justify on the basis of media cost, duplication charges, time of people involved, and so on. (You will not be required to justify it to the Copyright Holder, but only to the computing community at large as a market that must bear the fee.)

"Freely Available" means that no fee is charged for the item itself, though there may be fees involved in handling the item. It also means that recipients of the item may redistribute it under the same conditions they received it.

1. You may make and give away verbatim copies of the source form of the Standard Version of this Package without restriction, provided that you duplicate all of the original copyright notices and associated disclaimers.

2. You may apply bug fixes, portability fixes and other modifications derived from the Public Domain or from the Copyright Holder. A Package modified in such a way shall still be considered the Standard Version.

3. You may otherwise modify your copy of this Package in any way, provided that you insert a prominent notice in each changed file stating how and when you changed that file, and provided that you do at least ONE of the following:

   a) place your modifications in the Public Domain or otherwise make them Freely Available, such as by posting said modifications to Usenet or an equivalent medium, or placing the modifications on a major archive site such as uunet.uu.net, or by allowing the Copyright Holder to include your modifications in the Standard Version of the Package.
b) use the modified Package only within your corporation or organization.

c) rename any non-standard executables so the names do not conflict with standard executables, which must also be provided, and provide a separate manual page for each non-standard executable that clearly documents how it differs from the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

4. You may distribute the programs of this Package in object code or executable form, provided that you do at least ONE of the following:

a) distribute a Standard Version of the executables and library files, together with instructions (in the manual page or equivalent) on where to get the Standard Version.

b) accompany the distribution with the machine-readable source of the Package with your modifications.

c) give non-standard executables non-standard names, and clearly document the differences in manual pages (or equivalent), together with instructions on where to get the Standard Version.

d) make other distribution arrangements with the Copyright Holder.

5. You may charge a reasonable copying fee for any distribution of this Package. You may charge any fee you choose for support of this Package. You may not charge a fee for this Package itself. However, you may distribute this Package in aggregate with other (possibly commercial) programs as part of a larger (possibly commercial) software distribution provided that you do not advertise this Package as a product of your own. You may embed this Package's interpreter within an executable of yours (by linking); this shall be construed as a mere form of aggregation, provided that the complete Standard Version of the interpreter is so embedded.

6. The scripts and library files supplied as input to or produced as output from the programs of this Package do not automatically fall under the copyright of this Package, but belong to whoever generated them, and may be sold commercially, and may be aggregated with this Package. If such scripts or library files are aggregated with this Package via the so-called "undump" or "unexec" methods of producing a binary executable image, then distribution of such an image shall neither be construed as a distribution of this Package nor shall it fall under the restrictions of Paragraphs 3 and 4, provided that you do not represent such an executable image as a Standard Version of this Package.
7. C subroutines (or comparably compiled subroutines in other languages) supplied by you and linked into this Package in order to emulate subroutines and variables of the language defined by this Package shall not be considered part of this Package, but are the equivalent of input as in Paragraph 6, provided these subroutines do not change the language in any way that would cause it to fail the regression tests for the language.

8. Aggregation of this Package with a commercial distribution is always permitted provided that the use of this Package is embedded; that is, when no overt attempt is made to make this Package's interfaces visible to the end user of the commercial distribution. Such use shall not be construed as a distribution of this Package.

9. The name of the Copyright Holder may not be used to endorse or promote products derived from this software without specific prior written permission.

10. THIS PACKAGE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The End

1.47 acl 2.2.53-1.el8

1.47.1 Available under license:

Most components of the "acl" package are licensed under Version 2.1 of the GNU Lesser General Public License (see COPYING.LGPL).

Some components (as annotated in the source) are licensed under Version 2 of the GNU General Public License (see below),

-------------------------------------------------------------

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

**GNU GENERAL PUBLIC LICENSE**

**TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION**
This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent
license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>  
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.
This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69. Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

Most components of the "acl" package are licensed under Version 2.1 of the GNU Lesser General Public License (see below).

Some components (as annotated in the source) are licensed under Version 2 of the GNU General Public License (see COPYING).
GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL.  It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it.  By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it.  You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price.  Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights.  These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you.  You must make sure that they, too, receive or can get the source
code.  If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it.  And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the
library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.
In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from
such a program is covered only if its contents constitute a work based
on the Library (independent of the use of the Library in a tool for
writing it). Whether that is true depends on what the Library does
and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's
complete source code as you receive it, in any medium, provided that
you conspicuously and appropriately publish on each copy an
appropriate copyright notice and disclaimer of warranty; keep intact
all the notices that refer to this License and to the absence of any
warranty; and distribute a copy of this License along with the
Library.

You may charge a fee for the physical act of transferring a copy,
and you may at your option offer warranty protection in exchange for a
fee.

2. You may modify your copy or copies of the Library or any portion
of it, thus forming a work based on the Library, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices
stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no
charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a
table of data to be supplied by an application program that uses
the facility, other than as an argument passed when the facility
is invoked, then you must make a good faith effort to ensure that,
in the event an application does not supply such function or
table, the facility still operates, and performs whatever part of
its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application. Therefore, Subsection 2d requires that any
application-supplied function or table used by this function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under
Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on
the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME
THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN
WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY
AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest
possible use to the public, we recommend making it free software that
everyone can redistribute and change. You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the
ordinary General Public License).

To apply these terms, attach the following notices to the library. It is
safest to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.
This library is distributed in the hope that it will be useful, 
but WITHOUT ANY WARRANTY; without even the implied warranty of 
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU 
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public 
License along with this library; if not, write to the Free Software 
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your 
school, if any, to sign a "copyright disclaimer" for the library, if 
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the 
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

1.48 iptables 1.8.4-16.el8

1.48.1 Available under license:

No license file was found, but licenses were detected in source scan.

# Copyright (c) 2016-2020 by Cisco Systems, Inc.
# All rights reserved.

#include systemd-common

linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system-preset/90-systemd.preset
/usr/lib/systemd/system-preset/90-systemd.preset
/usr/lib/systemd/system/tmp.mount
/usr/lib/systemd/system-preset/90-systemd.preset
/usr/lib/systemd/system/tmp.mount
usr/lib/systemd/system/local-fs.target.requires/tmp.mount
infra/systemd/sysinit.target
infra/systemd/sysinit.target
infra/systemd/cpld-symlink.service
infra/systemd/cpld-symlink.service
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/systemd-journald.service
/usr/lib/systemd/system/systemd-journald.service
usr/lib/systemd/system/systemd-journald.service
infra/systemd/systemd-journald.service.d/visible.conf
infra/systemd/systemd-journald.service.d/visible.conf
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/systemd-timedated.service
/usr/lib/systemd/system/systemd-timedated.service
usr/lib/systemd/system/systemd-timedated.service
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/systemd-udevd.service
/usr/lib/systemd/system/systemd-udevd.service
usr/lib/systemd/system/systemd-udevd.service
Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/systemd

No license file was found, but licenses were detected in source scan.

# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved.

(include systemd-common)

infra/systemd/switchroot/sysinit.target                       usr/lib/systemd/system/sysinit.target
infra/systemd/switchroot/systemd-journald.service              usr/lib/systemd/system/systemd-journald.service
infra/systemd/switchroot/systemd-timedated.service             usr/lib/systemd/system/systemd-timedated.service
infra/systemd/switchroot/systemd-udevd.service                 usr/lib/systemd/system/systemd-udevd.service
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/systemd-journald-audit.socket
usr/lib/systemd/system/systemd-journald-audit.socket

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/systemd-swrt

No license file was found, but licenses were detected in source scan.

#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved.

(include all-common)

(include systemd-swrt)

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/all-swrt

No license file was found, but licenses were detected in source scan.

#
# Copyright (c) 2018-2020 by Cisco Systems, Inc.
# All rights reserved.

#
# This file contains all needed files related to nfs server daemon.
#
infra/systemd/nfs-mountd.service                     usr/lib/systemd/system/nfs-mountd.service
infra/systemd/nfs-server.service                      usr/lib/systemd/system/nfs-server.service
infra/systemd/proc-fs-nfsd.mount                       usr/lib/systemd/system/proc-fs-nfsd.mount
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/sbin/exportfs    usr/sbin/exportfs
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/sbin/rpc.mountd    usr/sbin/rpc.mountd
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/sbin/rpc.nfsd    usr/sbin/rpc.nfsd
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/bin/rpcinfo    usr/bin/rpcinfo

(include nfs-common)
# The following kernel modules are needed when NFSV4 support is configured
# in kenrel.
# nfsd.ko depend on auth_rpcgss.ko
# auth_rpcgss.ko depend on oid_registry.ko

-${PLATFORM_SYSROOT}/usr/lib/modules/${KERNEL_VER}/kernel/lib/oid_registry.ko
usr/lib/modules/${KERNEL_VER}/kernel/lib/oid_registry.ko
${PLATFORM_SYSROOT}/usr/lib/modules/${KERNEL_VER}/kernel/net/sunrpc/auth_gss/auth_rpcgss.ko
usr/lib/modules/${KERNEL_VER}/kernel/net/sunrpc/auth_gss/auth_rpcgss.ko

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/nfsv4/nfs-utils
No license file was found, but licenses were detected in source scan.

# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved.

contrib/yocto/CGE7/journald.conf etc/systemd/journald.conf
infra/systemd/system.conf etc/systemd/system.conf
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/etc/systemd/user.conf etc/systemd/user.conf
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/etc/udev/udev.conf etc/udev/udev.conf
/usr/lib/systemd/system systemd init
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/lib/systemd/system-generators/systemd-fstab-generator
usr/lib/systemd/system-generators/systemd-fstab-generator
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/lib/systemd/system/basic.target
usr/lib/systemd/system/basic.target
/usr/lib/systemd/system/reboot.target    usr/lib/systemd/system/ctrl-alt-del.target
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/lib/systemd/system/dev-hugepages.mount
usr/lib/systemd/system/dev-hugepages.mount
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/lib/systemd/system/dev-mqueue.mount
usr/lib/systemd/system/dev-mqueue.mount
infra/systemd/emergency.service    usr/lib/systemd/system/emergency.service
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/lib/systemd/system/emergency.target
usr/lib/systemd/system/emergency.target
linkfarm/$[SYSROOT]s[ARCH]$[SDK]/usr/lib/systemd/system/final.target
usr/lib/systemd/system/final.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/halt.target
usr/lib/systemd/system/halt.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/kexec.target
usr/lib/systemd/system/kexec.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/local-fs-pre.target
usr/lib/systemd/system/local-fs-pre.target
infra/systemd/local-fs.target
usr/lib/systemd/system/local-fs.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/network-online.target
usr/lib/systemd/system/network-online.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/network.target
usr/lib/systemd/system/network.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/paths.target
usr/lib/systemd/system/paths.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/poweroff.target
usr/lib/systemd/system/poweroff.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/reboot.target
usr/lib/systemd/system/reboot.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/remote-fs.target
usr/lib/systemd/system/remote-fs.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/rescue.service
usr/lib/systemd/system/rescue.service
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/rescue.target
usr/lib/systemd/system/rescue.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/shutdown.target
usr/lib/systemd/system/shutdown.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/slices.target
usr/lib/systemd/system/slices.target
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/sockets.target
usr/lib/systemd/system/sockets.target
/usr/lib/systemd/system/systemd-journald.socket
usr/lib/systemd/system/systemd-journald.socket
/usr/lib/systemd/system/systemd-udevd-control.socket
usr/lib/systemd/system/systemd-udevd-control.socket
/usr/lib/systemd/system/systemd-udevd-kernel.socket
usr/lib/systemd/system/systemd-udevd-kernel.socket
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/sys-kernel-config.mount
usr/lib/systemd/system/sys-kernel-config.mount
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/lib/systemd/system/sys-kernel-debug.mount
usr/lib/systemd/system/sys-kernel-debug.mount
/usr/lib/systemd/system/sys-kernel-debug.mount
usr/lib/systemd/system/dev-hugepages.mount
/usr/lib/systemd/system/dev-hugepages.mount
/usr/lib/systemd/system/dev-mqueue.mount
usr/lib/systemd/system/dev-mqueue.mount
/usr/lib/systemd/system/sys-kernel-config.mount
usr/lib/systemd/system/sys-kernel-config.mount
usr/lib/systemd/system/sys-kernel-debug.mount
usr/lib/systemd/system/sys-kernel-debug.mount
/usr/lib/systemd/system/sysinit.target.wants/sys-kernel-debug.mount
/usr/lib/systemd/system/sysinit.target.wants/sys-kernel-debug.mount
/usr/lib/systemd/system/systemd-journal-flush.service
Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/systemd-common

No license file was found, but licenses were detected in source scan.

#
# Copyright (c) 2018, 2020 by Cisco Systems, Inc.
# All rights reserved

#files related to nfs-statd.service
linkfarm/$(SYSROOT)/$(ARCH)/$(SDK)/usr/sbin/rpc.statd         usr/sbin/rpc.statd
# files related to nfs-idmapd.service

# plugin nsswitch for rpc.idmapd can not be figure out automatially by dependency.
# The directory for plugin is fix to usr/lib/libnfsidmap

contrib/initscripts/binos/etc/${NFS_VER}/nfs-utils.conf  etc/nfs-utils.conf

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/nfsv4/nfs-common

No license file was found, but licenses were detected in source scan.

#
# May 2018, Victor Kamensky
#
# Copyright (c) 2018 by Cisco Systems, Inc.
# All rights reserved
#

contrib/initscripts/binos/etc/audit/auditd.conf  etc/audit/auditd.conf
contrib/initscripts/binos/etc/audisp/audispd.conf  etc/audisp/audispd.conf
contrib/initscripts/binos/etc/audit/audit.rules  etc/audit/audit.rules
contrib/initscripts/binos/etc/auditd/plugins.d/syslog.conf  etc/auditd/plugins.d/syslog.conf

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/audit

No license file was found, but licenses were detected in source scan.

#
# Copyright (c) 2018 by Cisco Systems, Inc.
# All rights reserved.
# This file is to store extra files needed to support NFSV4 client.
#
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/mount.nfs  usr/sbin/mount.nfs
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/umount.nfs  usr/sbin/umount.nfs
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/mount.nfs4  usr/sbin/mount.nfs4
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/umount.nfs4  usr/sbin/umount.nfs4

contrib/initscripts/binos/etc/${NFS_VER}/nfsmount.conf  etc/nfsmount.conf
$[PLATFORM_SYSROOT]/usr/lib/modules/${KERNEL_VER}/kernel/fs/nfs/nfsv4.ko

/usr/lib/modules/${KERNEL_VER}/kernel/fs/nfs/nfsv4.ko

(link include nfs-common)

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/nfsv4/nfs-utils-client
No license file was found, but licenses were detected in source scan.

# Original Creation Date Unknown
# Copyright (c) 2018 by Cisco Systems, Inc.
# All rights reserved.

linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/staprun  usr/bin/staprun
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/libexec/systemtap/stapio  usr/libexec/systemtap/stapio

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/systemtap
No license file was found, but licenses were detected in source scan.

# Copyright (c) 2018 by Cisco Systems, Inc.
# All rights reserved.

linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/ipcalc  usr/bin/ipcalc

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/ipcalc
No license file was found, but licenses were detected in source scan.

#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved.

(include audit)
(include bash)
(include binutils)
(include bridge-utils)
(include busybox)
(include bzip2)
(include coreutils)

(include cpio)
(include dbus)
(include diffutils)
(include dosfstools)
(include e2fsprogs)
(include ethtool)
(include file)
(include filesystem)
(include findutils)
(include gawk)
(include glibc)
(include grep)
(include gzip)
(include initscripts)
(include ipcald)
(include iproute2)
(include iptables)
(include iputils)
(include kexec-tools)
(include kmmod)
(include less)
(include libcacp)
(include lsof)
(include modules)
(include ncurses)
(include netbase)
(include netcat)
(include netkit-telnet)
(include net-tools)
(include ${NFS_VER}/nfs-utils-client)
(include pciutils)
(include procps)
(include psmisc)
(include rpcbind)
(include sed)
(include shadow)
(include strace)
(include sysklogd)
(include systemctl)
(include sysvinit)
(include tar)
(include tcpdump)
(include tftp-hpa)
(include traceroute)
(include util-linux)

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/all-common
No license file was found, but licenses were detected in source scan.

# Copyright (c) 2017-2019 by Cisco Systems, Inc.
# All rights reserved.

linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/dmesg       usr/bin/dmesg
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/kill        usr/bin/kill
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/mount       usr/bin/mount
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/umount      usr/bin/umount
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/agetty      usr/sbin/agetty
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/blockdev   usr/sbin/blockdev
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/cfdisk      usr/sbin/cfdisk
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/ctrlaltdel   usr/sbin/ctrlaltdel
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/fdisk       usr/sbin/fdisk
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/fsck        usr/sbin/fsck
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/hwclock     usr/sbin/hwclock
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/mkswap      usr/sbin/mkswap
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/pivot_root  usr/sbin/pivot_root
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/sfdisk      usr/sbin/sfdisk
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/swapoff     usr/sbin/swapoff
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/sbin/swapon      usr/sbin/swapon
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/arch        usr/bin/arch
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/cal         usr/bin/cal
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/chrt        usr/bin/chrt
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/col         usr/bin/col
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/colcrt      usr/bin/colcrt
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/colrm       usr/bin/colrm
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/column      usr/bin/column
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/flock       usr/bin/flock
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/getopt      usr/bin/getopt
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/hexdump     usr/bin/hexdump
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/ionice      usr/bin/ionice
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/ipcrm       usr/bin/ipcrm
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/ipcs        usr/bin/ipcs
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/isosize     usr/bin/isosize
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/last        usr/bin/last
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/logger     usr/bin/logger
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/look        usr/bin/look
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/lsblk       usr/bin/lsblk
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/mesg        usr/bin/mesg
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/namei       usr/bin/namei
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/newgrp      usr/bin/newgrp
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/nsenter     usr/bin/nsenter
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/rename      usr/bin/rename
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/renice      usr/bin/renice
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/rev         usr/bin/rev
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/script      usr/bin/script
linkfarm/$(SYSROOT)$(ARCH)$(SDK)/usr/bin/setsid      usr/bin/setsid
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/setterm  usr/bin/setterm
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/taskset  usr/bin/taskset
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/bins  usr/bin/bins
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/wall  usr/bin/wall
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/whereis  usr/bin/whereis
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/write  usr/bin/write
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/fdformat  usr/sbin/fdformat
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/mkfs  usr/sbin/mkfs
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/raw  usr/sbin/raw
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/zramctl  usr/sbin/zramctl

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/util-linux
No license file was found, but licenses were detected in source scan.

# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved

linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/rpc.statd  usr/sbin/rpc.statd
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/sm-notify  usr/sbin/sm-notify
infra/systemd/nfs-statd.service  usr/lib/systemd/system/nfs-statd.service
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/nfsstat  usr/sbin/nfsstat

contrib/initscripts/binos/etc/${NFS_VER}/nfs-utils.conf  etc/nfs-utils.conf

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/nfsv3/nfs-common
No license file was found, but licenses were detected in source scan.

#
# Copyright (c) 2020 by Cisco Systems, Inc.
# All rights reserved.

(include all-common)

(include systemd)

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/all
No license file was found, but licenses were detected in source scan.

#
# Copyright (c) 2015-2020 by Cisco Systems, Inc.
# All rights reserved.

#
# This file contains all needed files related to nfs server daemon.
#
infra/systemd/nfs-mountd.service  usr/lib/systemd/system/nfs-mountd.service
include nfs-common

# The following optional kernel modules are put here to allow forwarding
# compatible when NFSV4 support is configured in kernel.
# When nfsv4 is enabled in kernel, it brings in extra dependency for
# nfsvd.ko, which is needed for nfsv3 server.
# so treat extra modules needed by nfsvd.ko as optional since it depend on kernel
# configure.
#
# nfsvd.ko depend on auth_rpcgss.ko
# auth_rpcgss.ko depend on oid_registry.ko

-$(PLATFORM_SYSROOT)/usr/lib/modules/${KERNEL_VER}/kernel/lib/oid_registry.ko
usr/lib/modules/${KERNEL_VER}/kernel/lib/oid_registry.ko
-$(PLATFORM_SYSROOT)/usr/lib/modules/${KERNEL_VER}/kernel/net/sunrpc/auth_gss/auth_rpcgss.ko
usr/lib/modules/${KERNEL_VER}/kernel/net/sunrpc/auth_gss/auth_rpcgss.ko

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/nfsv3/nfs-utils

No license file was found, but licenses were detected in source scan.

#
# November 2018, Cisco Systems, Inc.
#
# Copyright (c) 2018-2019 by Cisco Systems, Inc.
# All rights reserved
#
# linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/ping/usr/bin/ping
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/bin/tracepath/usr/bin/tracepath
linkfarm/${SYSROOT}${ARCH}${SDK}/usr/sbin/in.tftpd-hpa/usr/bin/tftpd

Found in path(s):
* /opt/cola/permits/1130450074_1615190715.28/0/iptables-tar/linux-system/iputils

1.49 d-bus 1.12.16
1.49.1 Available under license:

D-Bus is licensed to you under your choice of the Academic Free License version 2.1, or the GNU General Public License version 2 (or, at your option any later version).
Both licenses are included here. Some of the standalone binaries are under the GPL only; in particular, but not limited to, tools/dbus-cleanup-sockets.c and test/decode-gcov.c. Each source code file is marked with the proper copyright information - if you find a file that isn't marked please bring it to our attention.

The Academic Free License
v. 2.1

This Academic Free License (the "License") applies to any original work of authorship (the "Original Work") whose owner (the "Licensor") has placed the following notice immediately following the copyright notice for the Original Work:

Licensed under the Academic Free License version 2.1

1) Grant of Copyright License. Licensor hereby grants You a world-wide, royalty-free, non-exclusive, perpetual, sublicenseable license to do the following:

   a) to reproduce the Original Work in copies;

   b) to prepare derivative works ("Derivative Works") based upon the Original Work;

   c) to distribute copies of the Original Work and Derivative Works to the public;

   d) to perform the Original Work publicly; and

   e) to display the Original Work publicly.

2) Grant of Patent License. Licensor hereby grants You a world-wide, royalty-free, non-exclusive, perpetual, sublicenseable license, under patent claims owned or controlled by the Licensor that are embodied in the Original Work as furnished by the Licensor, to make, use, sell and offer for sale the Original Work and Derivative Works.

3) Grant of Source Code License. The term "Source Code" means the preferred form of the Original Work for making modifications to it and all available documentation describing how to modify the Original Work. Licensor hereby agrees to provide a machine-readable copy of the Source Code of the Original Work along with each copy of the Original Work that Licensor distributes. Licensor reserves the right to satisfy this obligation by placing a machine-readable copy of the Source Code in an information repository reasonably calculated to permit inexpensive and convenient access by You for as long as Licensor continues to distribute the Original Work, and by publishing the address of that information repository in a notice immediately following the copyright notice that applies to the Original Work.
4) Exclusions From License Grant. Neither the names of Licensor, nor the names of any contributors to the Original Work, nor any of their trademarks or service marks, may be used to endorse or promote products derived from this Original Work without express prior written permission of the Licensor. Nothing in this License shall be deemed to grant any rights to trademarks, copyrights, patents, trade secrets or any other intellectual property of Licensor except as expressly stated herein. No patent license is granted to make, use, sell or offer to sell embodiments of any patent claims other than the licensed claims defined in Section 2. No right is granted to the trademarks of Licensor even if such marks are included in the Original Work. Nothing in this License shall be interpreted to prohibit Licensor from licensing under different terms from this License any Original Work that Licensor otherwise would have a right to license.

5) This section intentionally omitted.

6) Attribution Rights. You must retain, in the Source Code of any Derivative Works that You create, all copyright, patent or trademark notices from the Source Code of the Original Work, as well as any notices of licensing and any descriptive text identified therein as an "Attribution Notice." You must cause the Source Code for any Derivative Works that You create to carry a prominent Attribution Notice reasonably calculated to inform recipients that You have modified the Original Work.

7) Warranty of Provenance and Disclaimer of Warranty. Licensor warrants that the copyright in and to the Original Work and the patent rights granted herein by Licensor are owned by the Licensor or are sublicensed to You under the terms of this License with the permission of the contributor(s) of those copyrights and patent rights. Except as expressly stated in the immediately proceeding sentence, the Original Work is provided under this License on an "AS IS" BASIS and WITHOUT WARRANTY, either express or implied, including, without limitation, the warranties of NON-INFRINGEMENT, MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY OF THE ORIGINAL WORK IS WITH YOU. This DISCLAIMER OF WARRANTY constitutes an essential part of this License. No license to Original Work is granted hereunder except under this disclaimer.

8) Limitation of Liability. Under no circumstances and under no legal theory, whether in tort (including negligence), contract, or otherwise, shall the Licensor be liable to any person for any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or the use of the Original Work including, without limitation, damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses. This limitation of liability
shall not apply to liability for death or personal injury resulting from Licensor’s negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not apply to You.

9) Acceptance and Termination. If You distribute copies of the Original Work or a Derivative Work, You must make a reasonable effort under the circumstances to obtain the express assent of recipients to the terms of this License. Nothing else but this License (or another written agreement between Licensor and You) grants You permission to create Derivative Works based upon the Original Work or to exercise any of the rights granted in Section 1 herein, and any attempt to do so except under the terms of this License (or another written agreement between Licensor and You) is expressly prohibited by U.S. copyright law, the equivalent laws of other countries, and by international treaty. Therefore, by exercising any of the rights granted to You in Section 1 herein, You indicate Your acceptance of this License and all of its terms and conditions.

10) Termination for Patent Action. This License shall terminate automatically and You may no longer exercise any of the rights granted to You by this License as of the date You commence an action, including a cross-claim or counterclaim, against Licensor or any licensee alleging that the Original Work infringes a patent. This termination provision shall not apply for an action alleging patent infringement by combinations of the Original Work with other software or hardware.

11) Jurisdiction, Venue and Governing Law. Any action or suit relating to this License may be brought only in the courts of a jurisdiction wherein the Licensor resides or in which Licensor conducts its primary business, and under the laws of that jurisdiction excluding its conflict-of-law provisions. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any use of the Original Work outside the scope of this License or after its termination shall be subject to the requirements and penalties of the U.S. Copyright Act, 17 U.S.C. 101 et seq., the equivalent laws of other countries, and international treaty. This section shall survive the termination of this License.

12) Attorneys Fees. In any action to enforce the terms of this License or seeking damages relating thereto, the prevailing party shall be entitled to recover its costs and expenses, including, without limitation, reasonable attorneys’ fees and costs incurred in connection with such action, including any appeal of such action. This section shall survive the termination of this License.
13) Miscellaneous. This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable.

14) Definition of "You" in This License. "You" throughout this License, whether in upper or lower case, means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with you. For purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

15) Right to Use. You may use the Original Work in all ways not otherwise restricted or conditioned by this License or by law, and Licensor promises not to interfere with or be responsible for such uses by You.

This license is Copyright (C) 2003-2004 Lawrence E. Rosen. All rights reserved. Permission is hereby granted to copy and distribute this license without modification. This license may not be modified without the express written permission of its copyright owner.

--

END OF ACADEMIC FREE LICENSE. The following is intended to describe the essential differences between the Academic Free License (AFL) version 1.0 and other open source licenses:

The Academic Free License is similar to the BSD, MIT, UoI/NCSA and Apache licenses in many respects but it is intended to solve a few problems with those licenses.

* The AFL is written so as to make it clear what software is being licensed (by the inclusion of a statement following the copyright notice in the software). This way, the license functions better than a template license. The BSD, MIT and UoI/NCSA licenses apply to unidentified software.

* The AFL contains a complete copyright grant to the software. The BSD and Apache licenses are vague and incomplete in that respect.

* The AFL contains a complete patent grant to the software. The BSD, MIT, UoI/NCSA and Apache licenses rely on an implied patent license and contain no explicit patent grant.
* The AFL makes it clear that no trademark rights are granted to the licensor's trademarks. The Apache license contains such a provision, but the BSD, MIT and UoI/NCSA licenses do not.

* The AFL includes the warranty by the licensor that it either owns the copyright or that it is distributing the software under a license. None of the other licenses contain that warranty. All other warranties are disclaimed, as is the case for the other licenses.

* The AFL is itself copyrighted (with the right granted to copy and distribute without modification). This ensures that the owner of the copyright to the license will control changes. The Apache license contains a copyright notice, but the BSD, MIT and UoI/NCSA licenses do not.

--

START OF GNU GENERAL PUBLIC LICENSE

--

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.
1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
The hypothetical commands `show w` and `show c` should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w` and `show c`; they could even be mouse-clicks or menu items—whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
1.50 ncurses 6.1
1.50.1 Available under license:

Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

Files: *
Licence: X11

Files: aclocal.m4 package
Copyright: 2003-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, distribute with modifications, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright holders shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization.

Files: install-sh
Copyright: 1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not
be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent
`make' implicit rules from creating a file called install from it
when there is no Makefile.

This script is compatible with the BSD install script, but was written
from scratch. It can only install one file at a time, a restriction
shared with many OS's install programs.

On Debian systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8
Copyright (c) 1998-2017,2018 Free Software Foundation, Inc.

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, distribute with modifications, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
 DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
 OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
 THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright
holders shall not be used in advertising or otherwise to promote the
sale, use or other dealings in this Software without prior written
authorization.

-- vile:txtmode fc=72
-- $Id: COPYING,v 1.6 2018/01/01 12:00:00 tom Exp $
Upstream source https://invisible-island.net/ncurses/ncurses.html
This package is used for testing builds of ncurses.

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

-- vile:txtmode fc=72
-- $Id: COPYING,v 1.6 2018/01/01 12:00:00 tom Exp $
Upstream source https://invisible-island.net/ncurses/ncurses.html
This package is used for testing builds of ncurses.

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name(s) of the above copyright holders shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization.

Files: install-sh
Copyright: 1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

Files: progs/tset.c ncurses/tinfo/read_termcap.c
License: BSD

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

-- vile: txtmode file-encoding=utf-8
Upstream source https://invisible-island.net/ncurses/ncurses-examples.html

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

Files: *
Licence: X11

Files: aclocal.m4 package
Copyright: 2010-2017,2018 by Thomas E. Dickey
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, distribute with modifications, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Except as contained in this notice, the name(s) of the above copyright holders shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization.

-----------------------------------------------------------------------------------------------------------------------------
Files: install-sh
Copyright: 1994 X Consortium
Licence: X11

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

FSF changes to this file are in the public domain.

Calling this script install-sh is preferred over install.sh, to prevent `make' implicit rules from creating a file called install from it when there is no Makefile.

This script is compatible with the BSD install script, but was written from scratch. It can only install one file at a time, a restriction shared with many OS's install programs.

On Debian systems, the complete text of the GNU General Public License can be found in /usr/share/common-licenses/GPL-2'

-- vile: txtmode file-encoding=utf-8
1.51 xz 5.2.4

1.51.1 Available under license:

XZ Utils Licensing

==================

Different licenses apply to different files in this package. Here is a rough summary of which licenses apply to which parts of this package (but check the individual files to be sure):

- liblzma is in the public domain.

- xz, xzdec, and lzmdec command line tools are in the public domain unless GNU getopt_long had to be compiled and linked in from the lib directory. The getopt_long code is under GNU LGPLv2.1+.

- The scripts to grep, diff, and view compressed files have been adapted from gzip. These scripts and their documentation are under GNU GPLv2+.

- All the documentation in the doc directory and most of the XZ Utils specific documentation files in other directories are in the public domain.

- Translated messages are in the public domain.

- The build system contains public domain files, and files that are under GNU GPLv2+ or GNU GPLv3+. None of these files end up in the binaries being built.

- Test files and test code in the tests directory, and debugging utilities in the debug directory are in the public domain.

- The extra directory may contain public domain files, and files that are under various free software licenses.

You can do whatever you want with the files that have been put into the public domain. If you find public domain legally problematic, take the previous sentence as a license grant. If you still find the lack of copyright legally problematic, you have too many lawyers.

As usual, this software is provided "as is", without any warranty.
If you copy significant amounts of public domain code from XZ Utils into your project, acknowledging this somewhere in your software is polite (especially if it is proprietary, non-free software), but naturally it is not legally required. Here is an example of a good notice to put into "about box" or into documentation:

This software includes code from XZ Utils <https://tukaani.org/xz/>.

The following license texts are included in the following files:
- COPYING.LGPLv2.1: GNU Lesser General Public License version 2.1
- COPYING.GPLv2: GNU General Public License version 2
- COPYING.GPLv3: GNU General Public License version 3

Note that the toolchain (compiler, linker etc.) may add some code pieces that are copyrighted. Thus, it is possible that e.g. liblzma binary wouldn't actually be in the public domain in its entirety even though it contains no copyrighted code from the XZ Utils source package.

If you have questions, don't hesitate to ask the author(s) for more information.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary
General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".
A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.
Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

   a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

   b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS
How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
   
   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Program at all. For example, if a patent
license would not permit royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program’s name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

&lt;signature of Ty Coon&gt;, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007
The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run
modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.
To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.
The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other
6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no
A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly...
documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.
All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant
patent sublicenses in a manner consistent with the requirements of
this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free
patent license under the contributor's essential patent claims, to
make, use, sell, offer for sale, import and otherwise run, modify and
propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express
agreement or commitment, however denominated, not to enforce a patent
(such as an express permission to practice a patent or covenant not to
sue for patent infringement). To "grant" such a patent license to a
party means to make such an agreement or commitment not to enforce a
patent against the party.

If you convey a covered work, knowingly relying on a patent license,
and the Corresponding Source of the work is not available for anyone
to copy, free of charge and under the terms of this License, through a
publicly available network server or other readily accessible means,
then you must either (1) cause the Corresponding Source to be so
available, or (2) arrange to deprive yourself of the benefit of the
patent license for this particular work, or (3) arrange, in a manner
consistent with the requirements of this License, to extend the patent
license to downstream recipients. "Knowingly relying" means you have
actual knowledge that, but for the patent license, your conveying the
covered work in a country, or your recipient's use of the covered work
in a country, would infringe one or more identifiable patents in that
country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or
arrangement, you convey, or propagate by procuring conveyance of, a
covered work, and grant a patent license to some of the parties
receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.
If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.
1.52 dnsmasq 2.83

1.52.1 Available under license:

GNU GENERAL PUBLIC LICENSE

Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs
If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.
This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.
Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.
A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable
work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or
similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive
interaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).
The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or
d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the
violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.
A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.
A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".
You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

1.53 expat 1.95.5
1.53.1 Available under license:

Copyright (c) 1998-2000 Thai Open Source Software Center Ltd and Clark Cooper
Copyright (c) 2001-2019 Expat maintainers

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

1.54 gmp 6.1.2
1.54.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.
The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007
Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains
that there is no warranty for this free software. For both users' and
authors' sake, the GPL requires that modified versions be marked as
changed, so that their problems will not be attributed erroneously to
authors of previous versions.

Some devices are designed to deny users access to install or run
modified versions of the software inside them, although the manufacturer
can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other
parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users
can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.
6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.
A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in
source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.
All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party’s predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor’s "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, selling, offering for sale, or importing the Program or any portion of it.
Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future
versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.
To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

Open Source Used In Petra/TRAX/Arthas RM lpcentral 17.6 1611
GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates
the terms and conditions of version 3 of the GNU General Public
License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser
General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

"The Library" refers to a covered work governed by this License,
other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided
by the Library, but which is not otherwise based on the Library.
Defining a subclass of a class defined by the Library is deemed a mode
of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an
Application with the Library. The particular version of the Library
with which the Combined Work was made is also called the "Linked
Version".

The "Minimal Corresponding Source" for a Combined Work means the
Corresponding Source for the Combined Work, excluding any source code
for portions of the Combined Work that, considered in isolation, are
based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the
object code and/or source code for the Application, including any data
and utility programs needed for reproducing the Combined Work from the
Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License
without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.
If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.


The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.


You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the
copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)


You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.
The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.
To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.
"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other
than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction.
and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to
"keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.
c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because
If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:
a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under
this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the
Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have
actual knowledge that, but for the patent license, your conveying the
covered work in a country, or your recipient's use of the covered work
in a country, would infringe one or more identifiable patents in that
country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or
arrangement, you convey, or propagate by procuring conveyance of, a
covered work, and grant a patent license to some of the parties
receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS
THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program.  If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.
If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program’s commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <https://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <https://www.gnu.org/philosophy/why-not-lgpl.html>.

1.55 busybox 1.31.0
1.55.1 Available under license:

bzip2 applet in busybox is based on lightly-modified source of bzip2 version 1.0.4. bzip2 source is distributed under the following conditions (copied verbatim from LICENSE file)

===========================================================================

This program, "bzip2", the associated library "libbzip2", and all documentation, are copyright (C) 1996-2006 Julian R Seward. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product
documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR `AS IS' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, Cambridge, UK.
jseward@bzip.org
bzip2/libbzip2 version 1.0.4 of 20 December 2006
--- A note on GPL versions

BusyBox is distributed under version 2 of the General Public License (included in its entirety, below). Version 2 is the only version of this license which this version of BusyBox (or modified versions derived from this one) may be distributed under.

---

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)
These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.
If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.
NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.
You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

1.56 cryptsetup 2.2.1
1.56.1 Available under license:

CREATIVE COMMONS CORPORATION IS NOT A LAW FIRM AND DOES NOT PROVIDE LEGAL SERVICES. DISTRIBUTION OF THIS DOCUMENT DOES NOT CREATE AN ATTORNEY-CLIENT RELATIONSHIP. CREATIVE COMMONS PROVIDES THIS INFORMATION ON AN "AS-IS" BASIS. CREATIVE COMMONS MAKES NO WARRANTIES REGARDING THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED HEREUNDER, AND DISCLAIMS LIABILITY FOR DAMAGES RESULTING FROM THE USE OF THIS DOCUMENT OR THE INFORMATION OR WORKS PROVIDED HEREUNDER.
Statement of Purpose

The laws of most jurisdictions throughout the world automatically confer exclusive Copyright and Related Rights (defined below) upon the creator and subsequent owner(s) (each and all, an "owner") of an original work of authorship and/or a database (each, a "Work").

Certain owners wish to permanently relinquish those rights to a Work for the purpose of contributing to a commons of creative, cultural and scientific works ("Commons") that the public can reliably and without fear of later claims of infringement build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. These owners may contribute to the Commons to promote the ideal of a free culture and the further production of creative, cultural and scientific works, or to gain reputation or greater distribution for their Work in part through the use and efforts of others.

For these and/or other purposes and motivations, and without any expectation of additional consideration or compensation, the person associating CC0 with a Work (the "Affirmer"), to the extent that he or she is an owner of Copyright and Related Rights in the Work, voluntarily elects to apply CC0 to the Work and publicly distribute the Work under its terms, with knowledge of his or her Copyright and Related Rights in the Work and the meaning and intended legal effect of CC0 on those rights.

1. Copyright and Related Rights. A Work made available under CC0 may be protected by copyright and related or neighboring rights ("Copyright and Related Rights"). Copyright and Related Rights include, but are not limited to, the following:

   the right to reproduce, adapt, distribute, perform, display, communicate, and translate a Work;
   moral rights retained by the original author(s) and/or performer(s);
   publicity and privacy rights pertaining to a person's image or likeness depicted in a Work;
   rights protecting against unfair competition in regards to a Work, subject to the limitations in paragraph 4(a), below;
   rights protecting the extraction, dissemination, use and reuse of data in a Work;
   database rights (such as those arising under Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, and under any national implementation thereof, including any amended or successor version of such directive); and
   other similar, equivalent or corresponding rights throughout the world based on applicable law or treaty, and any national implementations thereof.

2. Waiver. To the greatest extent permitted by, but not in contravention of, applicable law, Affirmer hereby overtly, fully, permanently, irrevocably and unconditionally waives, abandons, and surrenders all of Affirmer's Copyright and Related Rights and associated claims and causes of action, whether now known or unknown (including existing as well as future claims and causes of action), in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "Waiver"). Affirmer makes the Waiver for the benefit of each member of the public at large and to the detriment of Affirmer's heirs and successors, fully intending that such Waiver shall not be subject to revocation, rescission, cancellation, termination, or any other legal or equitable action to disrupt the quiet enjoyment of the Work by the public as contemplated by Affirmer's express Statement of Purpose.
3. Public License Fallback. Should any part of the Waiver for any reason be judged legally invalid or ineffective under applicable law, then the Waiver shall be preserved to the maximum extent permitted taking into account Affirmer's express Statement of Purpose. In addition, to the extent the Waiver is so judged Affirmer hereby grants to each affected person a royalty-free, non transferable, non sublicensable, non exclusive, irrevocable and unconditional license to exercise Affirmer's Copyright and Related Rights in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "License"). The License shall be deemed effective as of the date CC0 was applied by Affirmer to the Work. Should any part of the License for any reason be judged legally invalid or ineffective under applicable law, such partial invalidity or ineffectiveness shall not invalidate the remainder of the License, and in such case Affirmer hereby affirms that he or she will not (i) exercise any of his or her remaining Copyright and Related Rights in the Work or (ii) assert any associated claims and causes of action with respect to the Work, in either case contrary to Affirmer's express Statement of Purpose.

4. Limitations and Disclaimers.

   No trademark or patent rights held by Affirmer are waived, abandoned, surrendered, licensed or otherwise affected by this document.

   Affirmer offers the Work as-is and makes no representations or warranties of any kind concerning the Work, express, implied, statutory or otherwise, including without limitation warranties of title, merchantability, fitness for a particular purpose, non infringement, or the absence of latent or other defects, accuracy, or the present or absence of errors, whether or not discoverable, all to the greatest extent permissible under applicable law.

   Affirmer disclaims responsibility for clearing rights of other persons that may apply to the Work or any use thereof, including without limitation any person's Copyright and Related Rights in the Work. Further, Affirmer disclaims responsibility for obtaining any necessary consents, permissions or other rights required for any use of the Work.

   Affirmer understands and acknowledges that Creative Commons is not a party to this document and has no duty or obligation with respect to this CC0 or use of the Work.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages—typically libraries—of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author’s reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License. We use
this license for certain libraries in order to permit linking those
libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a
combined work, a derivative of the original library. The ordinary
General Public License therefore permits such linking only if the
entire combination fits its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the "Lesser" General Public License because it
does Less to protect the user's freedom than the ordinary General
Public License. It also provides other free software developers Less
of an advantage over competing non-free programs. These disadvantages
are the reason we use the ordinary General Public License for many
libraries. However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to
encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be
allowed to use the library. A more frequent case is that a free
library does the same job as widely used non-free libraries. In this
case, there is little to gain by limiting the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free
programs enables a greater number of people to use a large body of
free software. For example, permission to use the GNU C Library in
non-free programs enables many more people to use the whole GNU
operating system, as well as its variant, the GNU/Linux operating
system.

Although the Lesser General Public License is Less protective of the
users' freedom, it does ensure that the user of a program that is
linked with the Library has the freedom and the wherewithal to run
that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and
modification follow. Pay close attention to the difference between a
"work based on the library" and a "work that uses the library". The
former contains code derived from the library, whereas the latter must
be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION
0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification").

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
work. (Executables containing this object code plus portions of the
Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may
distribute the object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or
link a "work that uses the Library" with the Library to produce a
work containing portions of the Library, and distribute that work
under terms of your choice, provided that the terms permit
modification of the work for the customer's own use and reverse
engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the
Library is used in it and that the Library and its use are covered by
this License. You must supply a copy of this License. If the work
during execution displays copyright notices, you must include the
copyright notice for the Library among them, as well as a reference
directing the user to the copy of this License. Also, you must do one
of these things:

a) Accompany the work with the complete corresponding
machine-readable source code for the Library including whatever
changes were used in the work (which must be distributed under
Sections 1 and 2 above); and, if the work is an executable linked
with the Library, with the complete machine-readable "work that
uses the Library", as object code and/or source code, so that the
user can modify the Library and then relink to produce a modified
executable containing the modified Library. (It is understood
that the user who changes the contents of definitions files in the
Library will not necessarily be able to recompile the application
to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the
Library. A suitable mechanism is one that (1) uses at run time a
copy of the library already present on the user's computer system,
rather than copying library functions into the executable, and (2)
will operate properly with a modified version of the library, if
the user installs one, as long as the modified version is
interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at
least three years, to give the same user the materials
specified in Subsection 6a, above, for a charge no more
than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.
12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest
possible use to the public, we recommend making it free software that
everyone can redistribute and change. You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the
ordinary General Public License).

To apply these terms, attach the following notices to the library. It is
safest to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
That's all there is to it!

-----

In addition, as a special exception, the copyright holders give permission to link the code of portions of this program with the OpenSSL library under certain conditions as described in each individual source file, and distribute linked combinations including the two.

You must obey the GNU Lesser General Public License in all respects for all of the code used other than OpenSSL. If you modify file(s) with this exception, you may extend this exception to your version of the file(s), but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version. If you delete this exception statement from all source files in the program, then also delete it here.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.
For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.
In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.
The hypothetical commands `show w` and `show c` should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w` and `show c`; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision` (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

-----
In addition, as a special exception, the copyright holders give permission to link the code of portions of this program with the OpenSSL library under certain conditions as described in each individual source file, and distribute linked combinations including the two.

You must obey the GNU General Public License in all respects for all of the code used other than OpenSSL. If you modify file(s) with this exception, you may extend this exception to your version of the file(s), but you are not obligated to do so. If you do not wish to do so, delete this exception statement from your version. If you delete this exception statement from all source files in the program, then also delete it here.

1.57 nginx 0.33
1.57.1 Available under license :
/
* Copyright (C) 2002-2019 Igor Sysoev
* Copyright (C) 2011-2019 Nginx, Inc.
* All rights reserved.
* *
* Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.

* THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

1.58 socat 1.7.3.3

1.58.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the
Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:
Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

LICENSE ISSUES
==============

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of
the OpenSSL License and the original SSLeay license apply to the toolkit.
See below for the actual license texts. Actually both licenses are BSD-style
Open Source licenses. In case of any license issues related to OpenSSL
please contact openssl-core@openssl.org.

OpenSSL License
--------------

/* ====================================================================
 * Copyright (c) 1998-2002 The OpenSSL Project. All rights reserved.
 * *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 * *
 * 1. Redistributions of source code must retain the above copyright
 * notice, this list of conditions and the following disclaimer.
 */
* 2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in
   the documentation and/or other materials provided with the
distribution.

* 3. All advertising materials mentioning features or use of this
   software must display the following acknowledgment:
   "This product includes software developed by the OpenSSL Project
for use in the OpenSSL Toolkit. (http://www.openssl.org/)"

* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
   endorse or promote products derived from this software without
   prior written permission. For written permission, please contact
   openssl-core@openssl.org.

* 5. Products derived from this software may not be called "OpenSSL"
   nor may "OpenSSL" appear in their names without prior written
   permission of the OpenSSL Project.

* 6. Redistributions of any form whatsoever must retain the following
   acknowledgment:
   "This product includes software developed by the OpenSSL Project
for use in the OpenSSL Toolkit (http://www.openssl.org/)"

* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
EXPRESSIONED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

*=====================================================================
*
This product includes cryptographic software written by Eric Young
(eay@cryptsoft.com). This product includes software written by Tim
Hudson (tjh@cryptsoft.com).
*
* Original SSLeay License

-----------------------

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
 * All rights reserved.
 *
 * This package is an SSL implementation written
 * by Eric Young (eay@cryptsoft.com).
 * The implementation was written so as to conform with Netscapes SSL.
 *
 * This library is free for commercial and non-commercial use as long as
 * the following conditions are aheared to. The following conditions
 * apply to all code found in this distribution, be it the RC4, RSA,
 * lhash, DES, etc., code; not just the SSL code. The SSL documentation
 * included with this distribution is covered by the same copyright terms
 * except that the holder is Tim Hudson (tjh@cryptsoft.com).
 *
 * Copyright remains Eric Young's, and as such any Copyright notices in
 * the code are not to be removed.
 * If this package is used in a product, Eric Young should be given attribution
 * as the author of the parts of the library used.
 * This can be in the form of a textual message at program startup or
 * in documentation (online or textual) provided with the package.
 *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 * 1. Redistributions of source code must retain the copyright
 *    notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright
 *    notice, this list of conditions and the following disclaimer in the
 *    documentation and/or other materials provided with the distribution.
 * 3. All advertising materials mentioning features or use of this software
 *    must display the following acknowledgement:
 *    "This product includes cryptographic software written by
 *    Eric Young (eay@cryptsoft.com)"
 *    The word 'cryptographic' can be left out if the rouines from the library
 *    being used are not cryptographic related :-) .
 * 4. If you include any Windows specific code (or a derivative thereof) from
 *    the apps directory (application code) you must include an acknowledgement:
 *    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
 *
 * THIS SOFTWARE IS PROVIDED BY ERIC YOUNG `AS IS` AND
 * ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
 * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
 * ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
 * FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
 * DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
 * OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
 * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
 * LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
1.59 PCRE 8.41

1.59.1 Available under license:

PCRE LICENCE

Please see the file LICENCE in the PCRE distribution for licensing details.

End

PCRE LICENCE

PCRE is a library of functions to support regular expressions whose syntax and semantics are as close as possible to those of the Perl 5 language.

Release 8 of PCRE is distributed under the terms of the "BSD" licence, as specified below. The documentation for PCRE, supplied in the "doc" directory, is distributed under the same terms as the software itself. The data in the testdata directory is not copyrighted and is in the public domain.

The basic library functions are written in C and are freestanding. Also included in the distribution is a set of C++ wrapper functions, and a just-in-time compiler that can be used to optimize pattern matching. These are both optional features that can be omitted when the library is built.

THE BASIC LIBRARY FUNCTIONS

Written by: Philip Hazel
Email local part: ph10
Email domain: cam.ac.uk


Copyright (c) 1997-2017 University of Cambridge
All rights reserved.
PCRE JUST-IN-TIME CompILATION SUPPORT
-------------------------------------

Written by: Zoltan Herczeg
Email local part: hzmester
Email domain: freemail.hu

Copyright(c) 2010-2017 Zoltan Herczeg
All rights reserved.

STACK-LESS JUST-IN-TIME COMPILER
--------------------------------

Written by: Zoltan Herczeg
Email local part: hzmester
Email domain: freemail.hu

Copyright(c) 2009-2017 Zoltan Herczeg
All rights reserved.

THE C++ WRAPPER FUNCTIONS
-------------------------

Contributed by: Google Inc.

Copyright (c) 2007-2012, Google Inc.
All rights reserved.

THE "BSD" LICENCE
-----------------

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice,
  this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.

* Neither the name of the University of Cambridge nor the name of Google
  Inc. nor the names of their contributors may be used to endorse or
  promote products derived from this software without specific prior
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

End

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

1.60 gdisk 1.0.4

1.60.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.
The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM. TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>
This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
'Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.
1.61 libunistring 0.9.10

1.61.1 Available under license:

GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates
the terms and conditions of version 3 of the GNU General Public
License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser
General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

"The Library" refers to a covered work governed by this License,
other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided
by the Library, but which is not otherwise based on the Library.
Defining a subclass of a class defined by the Library is deemed a mode
of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an
Application with the Library. The particular version of the Library
with which the Combined Work was made is also called the "Linked
Version".

The "Minimal Corresponding Source" for a Combined Work means the
Corresponding Source for the Combined Work, excluding any source code
for portions of the Combined Work that, considered in isolation, are
based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the
object code and/or source code for the Application, including any data
and utility programs needed for reproducing the Combined Work from the
Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License
without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.


The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.


You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.
c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)


You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it
is a work based on the Library, and explaining where to find the 
accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions 
of the GNU Lesser General Public License from time to time. Such new 
versions will be similar in spirit to the present version, but may 
differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the 
Library as you received it specifies that a certain numbered version 
of the GNU Lesser General Public License "or any later version" 
applies to it, you have the option of following the terms and 
conditions either of that published version or of any later version 
published by the Free Software Foundation. If the Library as you 
received it does not specify a version number of the GNU Lesser 
General Public License, you may choose any version of the GNU Lesser 
General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide 
whether future versions of the GNU Lesser General Public License shall 
apply, that proxy's public statement of acceptance of any version is 
permanent authorization for you to choose that version for the 
Library.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies 
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for 
software and other kinds of works.

The licenses for most software and other practical works are designed 
to take away your freedom to share and change the works. By contrast, 
the GNU General Public License is intended to guarantee your freedom to 
share and change all versions of a program--to make sure it remains free 
software for all its users. We, the Free Software Foundation, use the 
GNU General Public License for most of our software; it applies also to 
any other work released this way by its authors. You can apply it to 
your programs, too.

When we speak of free software, we are referring to freedom, not 
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS
0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of
interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you
with facilities for running those works, provided that you comply with
the terms of this License in conveying all material for which you do
not control copyright. Those thus making or running the covered works
for you must do so exclusively on your behalf, under your direction
and control, on terms that prohibit them from making any copies of
your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under
the conditions stated below. Sublicensing is not allowed; section 10
makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological
measure under any applicable law fulfilling obligations under article
11 of the WIPO copyright treaty adopted on 20 December 1996, or
similar laws prohibiting or restricting circumvention of such
measures.

When you convey a covered work, you waive any legal power to forbid
circumvention of technological measures to the extent such circumvention
is effected by exercising rights under this License with respect to
the covered work, and you disclaim any intention to limit operation or
modification of the work as a means of enforcing, against the work's
users, your or third parties' legal rights to forbid circumvention of
technological measures.


You may convey verbatim copies of the Program's source code as you
receive it, in any medium, provided that you conspicuously and
appropriately publish on each copy an appropriate copyright notice;
keep intact all notices stating that this License and any
non-permissive terms added in accord with section 7 apply to the code;
keep intact all notices of the absence of any warranty; and give all
recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey,
and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to
produce it from the Program, in the form of source code under the
terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified
it, and giving a relevant date.
b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install
and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.
Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.
You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered
work results from an entity transaction, each party to that
transaction who receives a copy of the work also receives whatever
licenses to the work the party’s predecessor in interest had or could
give under the previous paragraph, plus a right to possession of the
Corresponding Source of the work from the predecessor in interest, if
the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the
dights granted or affirmed under this License. For example, you may
not impose a license fee, royalty, or other charge for exercise of
dights granted under this License, and you may not initiate litigation
(including a cross-claim or counterclaim in a lawsuit) alleging that
any patent claim is infringed by making, using, selling, offering for
sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this
License of the Program or a work on which the Program is based. The
work thus licensed is called the contributor’s "contributor version”.

A contributor's "essential patent claims" are all patent claims
owned or controlled by the contributor, whether already acquired or
hereafter acquired, that would be infringed by some manner, permitted
by this License, of making, using, or selling its contributor version,
but do not include claims that would be infringed only as a
consequence of further modification of the contributor version. For
purposes of this definition, "control" includes the right to grant
patent sublicenses in a manner consistent with the requirements of
this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free
patent license under the contributor's essential patent claims, to
make, use, sell, offer for sale, import and otherwise run, modify and
propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express
agreement or commitment, however denominated, not to enforce a patent
(such as an express permission to practice a patent or covenant not to
sue for patent infringement). To "grant" such a patent license to a
party means to make such an agreement or commitment not to enforce a
patent against the party.

If you convey a covered work, knowingly relying on a patent license,
and the Corresponding Source of the work is not available for anyone
to copy, free of charge and under the terms of this License, through a
publicly available network server or other readily accessible means,
then you must either (1) cause the Corresponding Source to be so
available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.
13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.
@c The GNU General Public License.
@c center Version 3, 29 June 2007
@c This file is intended to be included within another document,
c hence no sectioning command or @node.

@c display
Copyright @copyright{} 2007 Free Software Foundation, Inc. @url{http://fsf.org/}

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
@end display

@heading Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom
to share and change all versions of a program---to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents.
States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

**TERMS AND CONDITIONS**

0 Definitions.

``This License'' refers to version 3 of the GNU General Public License.

``Copyright'' also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

``The Program'' refers to any copyrightable work licensed under this License. Each licensee is addressed as ``you''. ``Licensees'' and ``recipients'' may be individuals or organizations.

To ``modify'' a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a ``modified version'' of the earlier work or a work ``based on'' the earlier work.

A ``covered work'' means either the unmodified Program or a work based on the Program.

To ``propagate'' a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To ``convey'' a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays ``Appropriate Legal Notices'' to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the
work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

@item Source Code.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

@item Basic Permissions.

All rights granted under this License are granted for the term of
copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

@item Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.

@item Conveying Verbatim Copies.

You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.
You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

@item Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

@enumerate
@item The work must carry prominent notices stating that you modified it, and giving a relevant date.

@item The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to ``keep intact all notices''.

@item You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

@item If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.
@end enumerate

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

@item Conveying Non-Source Forms.
You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

@enumerate
@item
Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

@item
Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

@item
Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

@item
Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

@item
Convey the object code using peer-to-peer transmission, provided you
inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

@end enumerate

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

``Installation Information'' for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification
itself materially and adversely affects the operation of the network
or violates the rules and protocols for communication across the
network.

Corresponding Source conveyed, and Installation Information provided,
in accord with this section must be in a format that is publicly
documented (and with an implementation available to the public in
source code form), and must require no special password or key for
unpacking, reading or copying.

@item Additional Terms.

``Additional permissions” are terms that supplement the terms of this
License by making exceptions from one or more of its conditions.
Additional permissions that are applicable to the entire Program shall
be treated as though they were included in this License, to the extent
that they are valid under applicable law. If additional permissions
apply only to part of the Program, that part may be used separately
under those permissions, but the entire Program remains governed by
this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option
remove any additional permissions from that copy, or from any part of
it. (Additional permissions may be written to require their own
removal in certain cases when you modify the work.) You may place
additional permissions on material, added by you to a covered work,
for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you
add to a covered work, you may (if authorized by the copyright holders
of that material) supplement the terms of this License with terms:

@enumerate a
@item
Disclaiming warranty or limiting liability differently from the terms
of sections 15 and 16 of this License; or

@item
Requiring preservation of specified reasonable legal notices or author
attributions in that material or in the Appropriate Legal Notices
displayed by works containing it; or

@item
Prohibiting misrepresentation of the origin of that material, or
requiring that modified versions of such material be marked in
reasonable ways as different from the original version; or

@item

---

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 1703
Limiting the use for publicity purposes of names of licensors or authors of the material; or

@item
Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

@item
Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.
@end enumerate

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

@item Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.
Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.

@item Acceptance Not Required for Having Copies.

You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

@item Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for
sale, or importing the Program or any portion of it.

@item Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within the
scope of its coverage, prohibits the exercise of, or is conditioned on
the non-exercise of one or more of the rights that are specifically
granted under this License. You may not convey a covered work if you
are a party to an arrangement with a third party that is in the
business of distributing software, under which you make payment to the
third party based on the extent of your activity of conveying the
work, and under which the third party grants, to any of the parties
who would receive the covered work from you, a discriminatory patent
license (a) in connection with copies of the covered work conveyed by
you (or copies made from those copies), or (b) primarily for and in
connection with specific products or compilations that contain the
covered work, unless you entered into that arrangement, or that patent
license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.

@item No Surrender of Others' Freedom.

If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey
a covered work so as to satisfy simultaneously your obligations under
this License and any other pertinent obligations, then as a
consequence you may not convey it at all. For example, if you agree
to terms that oblige you to collect a royalty for further conveying
from those to whom you convey the Program, the only way you could
satisfy both those terms and this License would be to refrain entirely
from conveying the Program.

@item Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

@item Revised Versions of this License.
The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License ``or any later version'' applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

@item Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM ``AS IS'' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

@item Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the `copyright` line and a pointer to where the full notice is found.

```
Copyright (C) [year] [name of author]
This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.
This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.
You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.
```

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:
This program comes with ABSOLUTELY NO WARRANTY; for details type @samp{show w}. This is free software, and you are welcome to redistribute it under certain conditions; type @samp{show c} for details.

The hypothetical commands @samp{show w} and @samp{show c} should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an `\aboutbox'.

You should also get your employer (if you work as a programmer) or school, if any, to sign a `\copyright disclaimer' for the program, if necessary.

For more information on this, and how to apply and follow the GNU GPL, see @url{http://www.gnu.org/licenses/}.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read @url{http://www.gnu.org/philosophy/why-not-lgpl.html}.

@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document, @c hence no sectioning command or @node.

@display
@uref{http://fsf.org/}
@end display

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
@end display

@enumerate 0 @item PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document @dfn{free} in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible
This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you". You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero
Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not ``Transparent'' is called ``Opaque''.

Examples of suitable formats for Transparent copies include plain \texttt{ascii} without markup, TeXinfo input format, \LaTeX{} input format, \acronym{SGML} or \acronym{XML} using a publicly available \acronym{DTD}, and standard-conforming simple \acronym{HTML}, PostScript or \acronym{PDF} designed for human modification. Examples of transparent image formats include \acronym{PNG}, \acronym{XCF} and \acronym{JPG}. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, \acronym{SGML} or \acronym{XML} for which the \acronym{DTD} and/or processing tools are not generally available, and the machine-generated \acronym{HTML}, PostScript or \acronym{PDF} produced by some word processors for output purposes only.

The ``Title Page'' means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, ``Title Page'' means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The ``publisher'' means any person or entity that distributes copies of the Document to the public.

A section ``Entitled XYZ'' means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as ``Acknowledgements''.)
``Dedications'', ``Endorsements'', or ``History''. To ``Preserve the Title'' of such a section when you modify the Document means that it remains a section ``Entitled XYZ'' according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties; any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

@item
VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

@item
COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.
If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

A
Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.

List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.

State on the Title page the name of the publisher of the Modified Version, as the publisher.

Preserve all the copyright notices of the Document.
@item
Add an appropriate copyright notice for your modifications
adjacent to the other copyright notices.

@item
Include, immediately after the copyright notices, a license notice
giving the public permission to use the Modified Version under the
terms of this License, in the form shown in the Addendum below.

@item
Preserve in that license notice the full lists of Invariant Sections
and required Cover Texts given in the Document's license notice.

@item
Include an unaltered copy of this License.

@item
Preserve the section Entitled ``History'', Preserve its Title, and add
to it an item stating at least the title, year, new authors, and
publisher of the Modified Version as given on the Title Page. If
there is no section Entitled ``History'' in the Document, create one
stating the title, year, authors, and publisher of the Document as
given on its Title Page, then add an item describing the Modified
Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for
public access to a Transparent copy of the Document, and likewise
the network locations given in the Document for previous versions
it was based on. These may be placed in the ``History'' section.
You may omit a network location for a work that was published at
least four years before the Document itself, or if the original
publisher of the version it refers to gives permission.

@item
For any section Entitled ``Acknowledgements'' or ``Dedications'', Preserve
the Title of the section, and preserve in the section all the
substance and tone of each of the contributor acknowledgements and/or
dedications given therein.

@item
Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles. Section numbers
or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''. Such a section
may not be included in the Modified Version.

@item
Do not retile any existing section to be Entitled `"Endorsements"` or to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.

You may add a section Entitled `"Endorsements"`, provided it contains nothing but endorsements of your Modified Version by various parties---for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

@item
COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and
multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History" in the various original documents, forming one section Entitled "History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements."

@item
COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled “Acknowledgements”, “Dedications”, or “History”, the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.
@item
FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See @uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License “or any later version” applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy’s public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

@item
RELICENSING

``Massive Multiauthor Collaboration Site” (or ``MMC Site”) means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A ``Massive Multiauthor Collaboration” (or ``MMC”) contained in the site means any set of copyrightable works thus published on the MMC site.

``CC-BY-SA” means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

``Incorporate” means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is ``eligible for relicensing” if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.
The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

@smallexample
@group
Copyright (C) @var{year} @var{your name}.
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled ``GNU Free Documentation License``.
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the `with@dots{}Texts.” line with this:

@smallexample
@group
with the Invariant Sections being @var{list their titles}, with the Front-Cover Texts being @var{list}, and with the Back-Cover Texts being @var{list}.
@end group
@end smallexample

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
1.62 kexec-tools 2.0.19

1.62.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.
Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

**GNU GENERAL PUBLIC LICENSE**

**TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION**

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this
License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM “AS IS” WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs
If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.
This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.
We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.
You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the
Program), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the
Program), the recipient automatically receives a license from the
original licensor to copy, distribute or modify the Program subject to
these terms and conditions. You may not impose any further
restrictions on the recipients’ exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties to
this License.

7. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Program at all. For example, if a patent
license would not permit royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

1.63 unbound 1.4.22
1.63.1 Available under license:

Copyright (c) 2009, Zdenek Vasicek (vasicek AT fit.vutbr.cz)
Marek Vavrusa (xvavru00 AT stud.fit.vutbr.cz)

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of the organization nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Copyright (c) 2007, NLnet Labs. All rights reserved.

This software is open source.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the NLNET LABS nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (c) 2009, Dmitriy Demidov aka terminus. All rights reserved.

This software is open source.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the Dmitriy Demidov nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

1.64 pcre 8.43

1.64.1 Available under license:

PCRE LICENCE

------------

PCRE is a library of functions to support regular expressions whose syntax and semantics are as close as possible to those of the Perl 5 language.

Release 8 of PCRE is distributed under the terms of the "BSD" licence, as specified below. The documentation for PCRE, supplied in the "doc" directory, is distributed under the same terms as the software itself. The data in the testdata directory is not copyrighted and is in the public domain.

The basic library functions are written in C and are freestanding. Also included in the distribution is a set of C++ wrapper functions, and a just-in-time compiler that can be used to optimize pattern matching. These are both optional features that can be omitted when the library is built.

THE BASIC LIBRARY FUNCTIONS

---------------------------

Written by: Philip Hazel
Email local part: ph10
Email domain: cam.ac.uk

University of Cambridge Computing Service,

Copyright (c) 1997-2019 University of Cambridge
All rights reserved.
PCRE JUST-IN-TIME COMPILATION SUPPORT

Written by: Zoltan Herczeg
Email local part: hzmester
Email domain: freemail.hu

Copyright(c) 2010-2019 Zoltan Herczeg
All rights reserved.

STACK-LESS JUST-IN-TIME COMPILER

Written by: Zoltan Herczeg
Email local part: hzmester
Email domain: freemail.hu

Copyright(c) 2009-2019 Zoltan Herczeg
All rights reserved.

THE C++ WRAPPER FUNCTIONS

Contributed by: Google Inc.

Copyright (c) 2007-2012, Google Inc.
All rights reserved.

THE "BSD" LICENCE

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* Neither the name of the University of Cambridge nor the name of Google Inc. nor the names of their contributors may be used to endorse or promote products derived from this software without specific prior written permission.
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

End

PCRE LICENCE

Please see the file LICENCE in the PCRE distribution for licensing details.

End

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

1.65 gnutls 3.6.13
The "inih" library is distributed under the New BSD license:

Copyright (c) 2009, Ben Hoyt
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:
  * Redistributions of source code must retain the above copyright
    notice, this list of conditions and the following disclaimer.
  * Redistributions in binary form must reproduce the above copyright
    notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
  * Neither the name of Ben Hoyt nor the names of its contributors
    may be used to endorse or promote products derived from this software
    without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY BEN HOYT "AS IS" AND ANY
EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL BEN HOYT BE LIABLE FOR ANY
DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND
ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION
0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification").

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form
under the terms of Sections 1 and 2 above provided that you accompany
it with the complete corresponding machine-readable source code, which
must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy
from a designated place, then offering equivalent access to copy the
source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the
Library, but is designed to work with the Library by being compiled or
linked with it, is called a "work that uses the Library". Such a
work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it
contains portions of the Library), rather than a "work that uses the
library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file
that is part of the Library, the object code for the work may be a
derivative work of the Library even though the source code is not.
Whether this is true is especially significant if the work can be
linked without the Library, or if the work is itself a library. The
threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data
structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more
than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.
12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING
RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
That's all there is to it!

GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 1992-2015 by Bruce Korb - all rights reserved
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates
the terms and conditions of version 3 of the GNU General Public
License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser
General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

"The Library" refers to a covered work governed by this License,
other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided
by the Library, but which is not otherwise based on the Library.
Defining a subclass of a class defined by the Library is deemed a mode
of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an
Application with the Library. The particular version of the Library
with which the Combined Work was made is also called the "Linked
Version".

The "Minimal Corresponding Source" for a Combined Work means the
Corresponding Source for the Combined Work, excluding any source code
for portions of the Combined Work that, considered in isolation, are
based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the
object code and/or source code for the Application, including any data
and utility programs needed for reproducing the Combined Work from the
Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License
without being bound by section 3 of the GNU GPL.
2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.


The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.


You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright notices during
execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at run time a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)


You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.

If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

Copyright (C) 1992-2015 by Bruce Korb - all rights reserved
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING
IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

====================================================================
Written by Andy Polyakov <appro@fy.chalmers.se> for the OpenSSL project. The module is, however, dual licensed under OpenSSL and CRYPTOGRAMS licenses depending on where you obtain it. For further details see https://www.openssl.org/~appro/cryptogams/.

====================================================================

Copyright (c) 2006-2012, CRYPTOGRAMS by <appro@openssl.org>
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain copyright notices, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* Neither the name of the CRYPTOGRAMS nor the names of its copyright holder and contributors may be used to endorse or promote products derived from this software without specific prior written permission.

ALTERNATIVELY, provided that this notice is retained in full, this product may be distributed under the terms of the GNU General Public License (GPL), in which case the provisions of the GPL apply INSTEAD OF those given above.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDER AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

####################################################################
## Constant-time SSSE3 AES core implementation.
## version 0.1
##
## By Mike Hamburg (Stanford University), 2009
## Public domain.
##
## For details see https://shiftleft.org/papers/vector_aes/ and
## https://crypto.stanford.edu/vpaes/.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 1992-2015 by Bruce Korb - all rights reserved
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same
freedoms that you received. You must make sure that they, too, receive
or can get the source code. And you must show them these terms so they
know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

**TERMS AND CONDITIONS**

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.
A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to
control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such
measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).
The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions” are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or
authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.
A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.
A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy’s public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) by Bruce Korb - all rights reserved

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program>  Copyright (C) by Bruce Korb - all rights reserved
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<https://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License. But first, please read

LICENSING
========

Since GnuTLS version 3.1.10, the core library is released under
the GNU Lesser General Public License (LGPL) version 2.1 or later
(see doc/COPYING.LESSER for the license terms).

The GNU LGPL applies to the main GnuTLS library, while the
included applications as well as gnutls-openssl
library are under the GNU GPL version 3. The gnutls library is
located in the lib/ and libdane/ directories, while the applications
in src/ and, the gnutls-openssl library is at extra/.

The documentation in doc/ is under the GNU FDL license 1.3.

Note, however, that the nettle and the gmp libraries which are
GnuTLS dependencies, they are distributed under a LGPLv3+ or GPLv2+ dual
license. As such binaries linking to them need to adhere to either LGPLv3+
or the GPLv2+ license.

For any copyright year range specified as YYYY-ZZZZ in this package
note that the range specifies every single year in that closed interval.
The MIT License (MIT)

Copyright (c) 2016 Wrymouth Innovation Ltd

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Statement of Purpose

The laws of most jurisdictions throughout the world automatically confer exclusive Copyright and Related Rights (defined below) upon the creator and subsequent owner(s) (each and all, an "owner") of an original work of authorship and/or a database (each, a "Work").

Certain owners wish to permanently relinquish those rights to a Work for the purpose of contributing to a commons of creative, cultural and scientific works ("Commons") that the public can reliably and without fear of later claims of infringement build upon, modify, incorporate in other works, reuse and redistribute as freely as possible in any form whatsoever and for any purposes, including without limitation commercial purposes. These owners may contribute to the Commons to promote the ideal of a free culture and the further production of creative, cultural and scientific works, or to gain reputation or greater distribution for their Work in part through the use and efforts of others.

For these and/or other purposes and motivations, and without any expectation of additional consideration or compensation, the person associating CC0 with a Work (the "Affirmer"), to the extent that he or she is an owner of Copyright and Related Rights in the Work, voluntarily elects to apply CC0 to the Work and publicly distribute the Work under its terms, with knowledge of his or her Copyright and Related Rights in the Work and the meaning and intended legal effect of CC0 on those rights.

1. Copyright and Related Rights. A Work made available under CC0 may be protected by copyright and related or neighboring rights ("Copyright and Related Rights"). Copyright and Related Rights include, but are not limited to, the following:

   the right to reproduce, adapt, distribute, perform, display, communicate, and translate a Work;
   moral rights retained by the original author(s) and/or performer(s);
   publicity and privacy rights pertaining to a person's image or likeness depicted in a Work;
   rights protecting against unfair competition in regards to a Work, subject to the limitations in paragraph 4(a), below;
   rights protecting the extraction, dissemination, use and reuse of data in a Work;
   database rights (such as those arising under Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, and under any national implementation thereof, including any amended or successor version of such directive); and
   other similar, equivalent or corresponding rights throughout the world based on applicable law or treaty, and any national implementations thereof.

2. Waiver. To the greatest extent permitted by, but not in contravention of, applicable law, Affirmer hereby overtly, fully, permanently, irrevocably and unconditionally waives, abandons, and surrenders all of Affirmer's Copyright and Related Rights and associated claims and causes of action, whether now known or unknown (including existing as well as future claims and causes of action), in the Work (i) in all territories worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions), (iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including without limitation commercial, advertising or promotional purposes (the "Waiver"). Affirmer makes the Waiver for the benefit of each
member of the public at large and to the detriment of Affirmer's heirs and successors, fully intending that such
Waiver shall not be subject to revocation, rescission, cancellation, termination, or any other legal or equitable action
to disrupt the quiet enjoyment of the Work by the public as contemplated by Affirmer's express Statement of
Purpose.

3. Public License Fallback. Should any part of the Waiver for any reason be judged legally invalid or ineffective
under applicable law, then the Waiver shall be preserved to the maximum extent permitted taking into account
Affirmer's express Statement of Purpose. In addition, to the extent the Waiver is so judged Affirmer hereby grants to
each affected person a royalty-free, non transferable, non sublicensable, non exclusive, irrevocable and
unconditional license to exercise Affirmer's Copyright and Related Rights in the Work (i) in all territories
worldwide, (ii) for the maximum duration provided by applicable law or treaty (including future time extensions),
(iii) in any current or future medium and for any number of copies, and (iv) for any purpose whatsoever, including
without limitation commercial, advertising or promotional purposes (the "License"). The License shall be deemed
effective as of the date CC0 was applied by Affirmer to the Work. Should any part of the License for any reason be
judged legally invalid or ineffective under applicable law, such partial invalidity or ineffectiveness shall not
invalidate the remainder of the License, and in such case Affirmer hereby affirms that he or she will not (i) exercise
any of his or her remaining Copyright and Related Rights in the Work or (ii) assert any associated claims and causes
of action with respect to the Work, in either case contrary to Affirmer's express Statement of Purpose.

4. Limitations and Disclaimers.

   No trademark or patent rights held by Affirmer are waived, abandoned, surrendered, licensed or otherwise affected
   by this document.
   Affirmer offers the Work as-is and makes no representations or warranties of any kind concerning the Work,
   express, implied, statutory or otherwise, including without limitation warranties of title, merchantability, fitness for
   a particular purpose, non infringement, or the absence of latent or other defects, accuracy, or the present or absence
   of errors, whether or not discoverable, all to the greatest extent permissible under applicable law.
   Affirmer disclaims responsibility for clearing rights of other persons that may apply to the Work or any use
   thereof, including without limitation any person's Copyright and Related Rights in the Work. Further, Affirmer
   disclaims responsibility for obtaining any necessary consents, permissions or other rights required for any use of the
   Work.
   Affirmer understands and acknowledges that Creative Commons is not a party to this document and has no duty or
   obligation with respect to this CC0 or use of the Work.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <https://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program—to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to
avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.

The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a
You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.
5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.
b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by
this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the
additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.
Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a
party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey
the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have
permission to link or combine any covered work with a work licensed
under version 3 of the GNU Affero General Public License into a single
combined work, and to convey the resulting work. The terms of this
License will continue to apply to the part which is the covered work,
but the special requirements of the GNU Affero General Public License,
section 13, concerning interaction through a network will apply to the
combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of
the GNU General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the
Program specifies that a certain numbered version of the GNU General
Public License "or any later version" applies to it, you have the
option of following the terms and conditions either of that numbered
version or of any later version published by the Free Software
Foundation. If the Program does not specify a version number of the
GNU General Public License, you may choose any version ever published
by the Free Software Foundation.

If the Program specifies that a proxy can decide which future
versions of the GNU General Public License can be used, that proxy’s
public statement of acceptance of a version permanently authorizes you
to choose that version for the Program.

Later license versions may give you additional or different
permissions. However, no additional obligations are imposed on any
author or copyright holder as a result of your choosing to follow a
later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY
APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <https://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <https://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <https://www.gnu.org/philosophy/why-not-lgpl.html>.

1.66 openssh 8.0p1

1.66.1 Available under license:
This file is part of the OpenSSH software.

The licences which components of this software fall under are as follows. First, we will summarize and say that all components are under a BSD licence, or a licence more free than that.

OpenSSH contains no GPL code.
Copyright (c) 1995 Tatu Ylonen <ylo@cs.hut.fi>, Espoo, Finland
All rights reserved

As far as I am concerned, the code I have written for this software can be used freely for any purpose. Any derived versions of this software must be clearly marked as such, and if the derived work is incompatible with the protocol description in the RFC file, it must be called by a name other than "ssh" or "Secure Shell".

However, I am not implying to give any licenses to any patents or copyrights held by third parties, and the software includes parts that are not under my direct control. As far as I know, all included source code is used in accordance with the relevant license agreements and can be used freely for any purpose (the GNU license being the most restrictive); see below for details.

However, none of that term is relevant at this point in time. All of these restrictively licenced software components which he talks about have been removed from OpenSSH, i.e.,

- RSA is no longer included, found in the OpenSSL library
- IDEA is no longer included, its use is deprecated
- DES is now external, in the OpenSSL library
- GMP is no longer used, and instead we call BN code from OpenSSL
- Zlib is now external, in a library
- The make-ssh-known-hosts script is no longer included
- TSS has been removed
- MD5 is now external, in the OpenSSL library
- RC4 support has been replaced with ARC4 support from OpenSSL
- Blowfish is now external, in the OpenSSL library

Note that any information and cryptographic algorithms used in this software are publicly available on the Internet and at any major bookstore, scientific library, and patent office worldwide. More information can be found e.g. at "http://www.cs.hut.fi/crypto".

The legal status of this program is some combination of all these permissions and restrictions. Use only at your own responsibility. You will be responsible for any legal consequences yourself; I am not making any claims whether possessing or using this is legal or not in your country, and I am not taking any responsibility on your behalf.

NO WARRANTY
BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

3)
ssh-keyscan was contributed by David Mazieres under a BSD-style license.

* Copyright 1995, 1996 by David Mazieres <dm@lcs.mit.edu>.
* Modification and redistribution in source and binary forms is permitted provided that due credit is given to the author and the OpenBSD project by leaving this copyright notice intact.

4)
The Rijndael implementation by Vincent Rijmen, Antoon Bosselaers and Paulo Barreto is in the public domain and distributed with the following license:

* @version 3.0 (December 2000)
* Optimised ANSI C code for the Rijndael cipher (now AES)
* @author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
* @author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
* @author Paulo Barreto <paulo.barreto@terra.com.br>
* This code is hereby placed in the public domain.

* THIS SOFTWARE IS PROVIDED BY THE AUTHORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
* WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
* BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
* WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
* OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
* EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

5) One component of the ssh source code is under a 3-clause BSD license, held by the University of California, since we pulled these parts from original Berkeley code.

* The Regents of the University of California. All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

6) Remaining components of the software are provided under a standard 2-term BSD licence with the following names as copyright holders:

Markus Friedl
Theo de Raadt
Niels Provos
Dug Song
Aaron Campbell
Damien Miller
Kevin Steves
Daniel Kournil
Wesley Griffin
Per Allansson
Nils Nordman
Simon Wilkinson

Portable OpenSSH additionally includes code from the following copyright holders, also under the 2-term BSD license:

Ben Lindstrom
Tim Rice
Andre Lucas
Chris Adams
Corinna Vinschen
Cray Inc.
Denis Parker
Gert Doering
Jakob Schlyter
Jason Downs
Juha Yrjl
Michael Stone
Networks Associates Technology, Inc.
Solar Designer
Todd C. Miller
Wayne Schroeder
William Jones
Darren Tucker
Sun Microsystems
The SCO Group
Daniel Walsh
Red Hat, Inc
Simon Vallet / Genoscope

* Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
* 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
* IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
* IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
* INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
* DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
* THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
* (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
* THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

8) Portable OpenSSH contains the following additional licenses:

   a) md5crypt.c, md5crypt.h

   * "THE BEER-WARE LICENSE" (Revision 42):
   * <phk@login.dknet.dk> wrote this file. As long as you retain this
   * notice you can do whatever you want with this stuff. If we meet
   * some day, and you think this stuff is worth it, you can buy me a
   * beer in return. Poul-Henning Kamp

   b) snprintf replacement

   * Copyright Patrick Powell 1995
   * This code is based on code written by Patrick Powell
   * (papowell@astart.com) It may be used for any purpose as long as this
   * notice remains intact on all source code distributions

   c) Compatibility code (openbsd-compat)

   Apart from the previously mentioned licenses, various pieces of code
   in the openbsd-compat/ subdirectory are licensed as follows:

   Some code is licensed under a 3-term BSD license, to the following
   copyright holders:

   Todd C. Miller
   Theo de Raadt
   Damien Miller
   Eric P. Allman
   The Regents of the University of California
   Constantin S. Svintsoff

   * Redistribution and use in source and binary forms, with or without
   * modification, are permitted provided that the following conditions
   * are met:
   * 1. Redistributions of source code must retain the above copyright
   *    notice, this list of conditions and the following disclaimer.
   * 2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the University nor the names of its contributors
may be used to endorse or promote products derived from this software
without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

Some code is licensed under an ISC-style license, to the following
copyright holders:

Internet Software Consortium.
Todd C. Miller
Reyk Floeter
Chad Mynhier

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND TODD C. MILLER DISCLAIMS ALL
WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL TODD C. MILLER BE LIABLE
FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION
OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Some code is licensed under a MIT-style license to the following
copyright holders:

Free Software Foundation, Inc.

Permission is hereby granted, free of charge, to any person obtaining a *
copy of this software and associated documentation files (the *
"Software"), to deal in the Software without restriction, including *
without limitation the rights to use, copy, modify, merge, publish, *
distribute, distribute with modifications, sublicense, and/or sell *
* copies of the Software, and to permit persons to whom the Software is    *
* furnished to do so, subject to the following conditions:             *
*                                                                          *
* The above copyright notice and this permission notice shall be included *
* in all copies or substantial portions of the Software.                *
*                                                                          *
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS *
* OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF           *
* MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. *
* IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, *
* DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR *
* OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR   *
* THE USE OR OTHER DEALINGS IN THE SOFTWARE.                            *
*                                                                          *
* Except as contained in this notice, the name(s) of the above copyright  *
* holders shall not be used in advertising or otherwise to promote the   *
* sale, use or other dealings in this Software without prior written     *
* authorization.                                                        *
***********************************************************************

------

$OpenBSD: LICENCE,v 1.20 2017/04/30 23:26:16 djm Exp $

1.67 gzip 1.9-11.el8

1.67.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and
TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.
A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not
convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:
a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.
"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own
removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions;
the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.
An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party’s predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone
to copy, free of charge and under the terms of this License, through a
publicly available network server or other readily accessible means,
then you must either (1) cause the Corresponding Source to be so
available, or (2) arrange to deprive yourself of the benefit of the
patent license for this particular work, or (3) arrange, in a manner
consistent with the requirements of this License, to extend the patent
license to downstream recipients. "Knowingly relying" means you have
actual knowledge that, but for the patent license, your conveying the
covered work in a country, or your recipient's use of the covered work
in a country, would infringe one or more identifiable patents in that
country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or
arrangement, you convey, or propagate by procuring conveyance of, a
covered work, and grant a patent license to some of the parties
receiving the covered work authorizing them to use, propagate, modify
or convey a specific copy of the covered work, then the patent license
you grant is automatically extended to all recipients of the covered
work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is
conditioned on the non-exercise of one or more of the rights that are
specifically granted under this License. You may not convey a covered
work if you are a party to an arrangement with a third party that is
in the business of distributing software, under which you make payment
to the third party based on the extent of your activity of conveying
the work, and under which the third party grants, to any of the
parties who would receive the covered work from you, a discriminatory
patent license (a) in connection with copies of the covered work
conveyed by you (or copies made from those copies), or (b) primarily
for and in connection with specific products or compilations that
contain the covered work, unless you entered into that arrangement,
or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may
otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot convey a
covered work so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you may
not convey it at all. For example, if you agree to terms that obligate you
to collect a royalty for further conveying from those to whom you convey

---

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 1804
the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM
IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF
ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS
THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY
GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE
USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF
DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD
PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS),
EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF
SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

1.68 pkix-ssh 11.6
1.68.1 Available under license:
No license file was found, but licenses were detected in source scan.

/*
 *------------------------------------------------------------------------
 * name: pkixpath.c
 * *
 * This file implements certificate path building/verifying SPI functions that conform to the descriptions in the PKIX draft documentation.
 * *
 * All rights reserved.
 *------------------------------------------------------------------------
Copyright (c) 1999-2000, RSA Security Inc.

This file is used to demonstrate how to interface to an RSA Security Inc. licensed development product. You have a royalty-free right to use, modify, reproduce and distribute this demonstration file (including any modified version), provided that you agree that RSA Security Inc. has no warranty, implied or otherwise, or liability for this demonstration file or any modified version.

This file is used to demonstrate how to interface to an RSA Security Inc. licensed development product. You have a royalty-free right to use, modify, reproduce and distribute this demonstration file (including any modified version), provided that you agree that RSA Security Inc. has no warranty, implied or otherwise, or liability for this demonstration file or any modified version.

No license file was found, but licenses were detected in source scan.

Found in path(s):
* /opt/cola/permits/1078111861_1615189672.12/0/pkix-tar/pkix/pkixpath.c

No license file was found, but licenses were detected in source scan.

Found in path(s):
* /opt/cola/permits/1078111861_1615189672.12/0/pkix-tar/pkix/pkixpath_header.h

1.69 libtomcrypt 1.17

1.69.1 Available under license:

# /*
    * SHA-512
    * Implementation derived from LibTomCrypt (Tom St Denis)
    * *
    * LibTomCrypt is a library that provides various cryptographic algorithms in a highly modular and flexible manner.
    * *
    * The library is free for all purposes without any express
1.70 util-linux 2.34

1.70.1 Available under license:

/*
 * Copyright (c) 1989 The Regents of the University of California.
 * All rights reserved.
 *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 * 1. Redistributions of source code must retain the above copyright
 *    notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright
 *    notice, this list of conditions and the following disclaimer in the
 *    documentation and/or other materials provided with the distribution.
 * 3. All advertising materials mentioning features or use of this software
 *    must display the following acknowledgement:
 *       This product includes software developed by the University of
 *       California, Berkeley and its contributors.
 * 4. Neither the name of the University nor the names of its contributors
 *    may be used to endorse or promote products derived from this software
 *    without specific prior written permission.
 *
 * THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
 * ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
 * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
 * ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
 * FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
 * DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
 * OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
 * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
 * LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
 * OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
 * SUCH DAMAGE.
 */

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later
version.

The complete text of the license is available in the
GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.
We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

   c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

   d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

   (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.
5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding
machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library
facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any
particular circumstance, the balance of the section is intended to apply,
and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

13. The Free Software Foundation may publish revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either
This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as
distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, and the entire permission notice in its entirety,
   including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INVOKEING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

This library is free software; you can redistribute it and/or
modify it under the terms of the Modified BSD License.
The complete text of the license is available in the
../Documentation/licenses/COPYING.BSD-3-Clause file.
This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later
version.
The complete text of the license is available in the
../Documentation/licenses/COPYING.LGPL-2.1-or-later
Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.
THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
1.71 e2fsprogs 1.43

1.71.1 Available under license:

This is the Debian GNU/Linux prepackaged version of the static EXT2 file system consistency checker (e2fsck.static). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from http://sourceforge.net/projects/e2fsprogs

Packaging is Copyright (c) 2003-2006 Theodore Ts'o <tytso@mit.edu>
Copyright (c) 1997-2003 Yann Dirson <dirson@debian.org>
Copyright (c) 2001 Alcove <http://www.alcove.com/>
Copyright (c) 1997 Klee Dienes
Copyright (c) 1995-1996 Michael Nonweiler <mrn20@cam.ac.uk>

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright notice:

This package, the EXT2 filesystem utilities, is protected by the GNU General Public License.


On Debian GNU systems, the complete text of the GNU General Public License can be found in `/usr/share/common-licenses/GPL-2'. This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

http://sourceforge.net/projects/e2fsprogs

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright:

Copyright (C) 1999, 2001 by Andries Brouwer
Copyright (C) 1999, 2000, 2003 by Theodore Ts'o

You are free to distribute this software under the terms of the GNU Lesser (Library) General Public License.

On Debian systems, the complete text of the GNU Lesser (Library)
General Public License can be found in /usr/share/common-licenses/LGPL-2.
This package was added to the e2fsprogs debian source package by
Theodore Ts'o <tytso@mit.edu> on Fri Dec 14 22:24:35 EST 2007

It is part of the main e2fsprogs distribution, which can be found at:

http://sourceforge.net/projects/e2fsprogs

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright:

Theodore Ts'o

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, and the entire permission notice in its entirety,
including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote
products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
notice, and the entire permission notice in its entirety,
including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote
products derived from this software without specific prior
written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

This is the Debian GNU/Linux prepackaged version of the translation
files of the EXT2 file system utilities. The EXT2 utilities were
written by Theodore Ts'o <tytso@mit.edu> and Remy Card
<card@masi.ibp.fr>.

Sources were obtained from http://sourceforge.net/projects/e2fsprogs

Packaging is Copyright (c) 2003-2006 Theodore Ts'o <tytso@mit.edu>
Copyright (c) 1997-2003 Yann Dirson <dirson@debian.org>
Copyright (c) 2001 Alcove <http://www.alcove.com>/
Copyright (c) 1997 Klee Dienes
Copyright (c) 1995-1996 Michael Nonweiler <mrn20@cam.ac.uk>

Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright notice:

This package, the EXT2 filesystem utilities, is protected by the GNU
General Public License.


On Debian GNU systems, the complete text of the GNU General
Public License can be found in `/usr/share/common-licenses/GPL-2'.
/*

Copyright 1987 by the Student Information Processing Board
of the Massachusetts Institute of Technology

Permission to use, copy, modify, and distribute this software
and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the names of M.I.T. and the M.I.T. S.I.P.B. not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. M.I.T. and the M.I.T. S.I.P.B. make no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

*/
Index: tdbsa/tdb.c
===================================================================
--- tdbsa.orig/tdb.c
+++ tdbsa/tdb.c
@@ -4,11 +4,11 @@ Rev: 23371
Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)
*/
/*
- Unix SMB/CIFS implementation.
+ trivial database library - standalone version

- trivial database library - private includes
- 
- Copyright (C) Andrew Tridgell 2005
+ Copyright (C) Andrew Tridgell 1999-2005
+ Copyright (C) Jeremy Allison 2000-2006
+ Copyright (C) Paul 'Rusty' Russell 2000

 ** NOTE! The following LGPL license applies to the tdb library. This does NOT imply that all of Samba is released
 This is the Debian GNU/Linux prepackaged version of the EXT2 file system utilities (e2fsck, mk2fs, etc.). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

 Sources were obtained from http://sourceforge.net/projects/e2fsprogs

 Packaging is Copyright (c) 2003-2007 Theodore Ts'o <tytso@mit.edu>
 Copyright (c) 1997-2003 Yann Dirson <dirson@debian.org>
 Copyright (c) 2001 Alcove <http://www.alcove.com/>
 Copyright (c) 1997 Klee Dienes
 Copyright (c) 1995-1996 Michael Nonweiler <mnr20@cam.ac.uk>

 Upstream Author: Theodore Ts'o <tytso@mit.edu>

 Copyright notice:
This package, the EXT2 filesystem utilities, are made available under the GNU General Public License version 2, with the exception of the lib/ext2fs and lib/e2p libraries, which are made available under the GNU Library General Public License Version 2, the lib/uuid library which is made available under a BSD-style license and the lib/et and lib/ss libraries which are made available under an MIT-style license.


On Debian GNU systems, the complete text of the GNU General Public License can be found in `/usr/share/common-licenses/GPL-2'. The complete text of the GNU Library General Public License can be found in `/usr/share/common-licenses/LGPL-2'.

The license used for lib/et and lib/ss libraries is:

Copyright 1987 by the Student Information Processing Board
of the Massachusetts Institute of Technology

Permission to use, copy, modify, and distribute this software and its documentation for any purpose is hereby granted, provided that the names of M.I.T. and the M.I.T. S.I.P.B. not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. M.I.T. and the M.I.T. S.I.P.B. make no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

The license used for lib/uuid is:

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, and the entire permission notice in its entirety, including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This package, the EXT2 filesystem utilities, are made available under the GNU Public License version 2, with the exception of the lib/ext2fs and lib/e2p libraries, which are made available under the GNU Library General Public License Version 2, the lib/uuid library which is made available under a BSD-style license and the lib/et and lib/ss libraries which are made available under an MIT-style license. Please see lib/uuid/COPYING for more details for the license for the files comprising the libuuid library, and the source file headers of the libet and libss libraries for more information.

The most recent officially distributed version can be found at http://e2fsprogs.sourceforge.net. If you need to make a distribution, that's the one you should use. If there is some reason why you'd like a more recent version that is still in ALPHA testing (i.e., either using the "WIP" test distributions or one from the hg or git repository from the development branch, please contact me (tytso@mit.edu) before you ship. The release schedules for this package are flexible, if you give me enough lead time.

Theodore Ts'o
23-June-2007

------------------------------------------------------------------

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but
does not normally print such an announcement, your work based on
the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Program,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Program, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Program.

In addition, mere aggregation of another work not based on the Program
with the Program (or with a work based on the Program) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may copy and distribute the Program (or a work based on it,
under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable
source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three
years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,
control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANDABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

--------------------------------------------------------------------------------

GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it. You can use it for your libraries, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION
0. This License Agreement applies to any software library which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Library General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification").

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline
functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
work. (Executables containing this object code plus portions of the
Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may
distribute the object code for the work under the terms of Section 6.
Any executables containing that work also fall under Section 6,
whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or
link a “work that uses the Library” with the Library to produce a
work containing portions of the Library, and distribute that work
under terms of your choice, provided that the terms permit
modification of the work for the customer's own use and reverse
engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the
Library is used in it and that the Library and its use are covered by
this License. You must supply a copy of this License. If the work
during execution displays copyright notices, you must include the
copyright notice for the Library among them, as well as a reference
directing the user to the copy of this License. Also, you must do one
of these things:

a) Accompany the work with the complete corresponding
machine-readable source code for the Library including whatever
changes were used in the work (which must be distributed under
Sections 1 and 2 above); and, if the work is an executable linked
with the Library, with the complete machine-readable “work that
uses the Library”, as object code and/or source code, so that the
user can modify the Library and then relink to produce a modified
executable containing the modified Library. (It is understood
that the user who changes the contents of definitions files in the
Library will not necessarily be able to recompile the application
to use the modified definitions.)

b) Accompany the work with a written offer, valid for at
least three years, to give the same user the materials
specified in Subsection 6a, above, for a charge no more
than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy
from a designated place, offer equivalent access to copy the above
specified materials from the same place.

d) Verify that the user has already received a copy of these
materials or that you have already sent this user a copy.
For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries
If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.

You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
This package was added to the e2fsprogs debian source package by Theodore Ts'o <tysot@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

http://sourceforge.net/projects/e2fsprogs
Upstream Author: Theodore Ts'o <tytso@mit.edu>

Copyright:

Copyright (C) 1999, 2000, 2003, 2004 by Theodore Ts'o

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, and the entire permission notice in its entirety, including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This is the Debian GNU/Linux prepackaged version of the ss command-line interface parsing library. It is currently distributed together with the EXT2 file system utilities, which are otherwise packaged as "e2fsprogs".

This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:
tsx-11.mit.edu:/pub/linux/packages/ext2fs/

From the original distribution:

Copyright 1987, 1988 by the Student Information Processing Board of the Massachusetts Institute of Technology

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is
hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the names of M.I.T. and the M.I.T. S.I.P.B. not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. M.I.T. and the M.I.T. S.I.P.B. make no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

# This is a Makefile stub which handles the creation of BSD shared libraries.

# In order to use this stub, the following makefile variables must be defined.

# BSDLIB_VERSION = 1.0
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)

all:: image

real-subdirs:: Makefile
@echo "MKDIR pic"
@mkdir -p pic

BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
BSDLIB_PIC_FLAG = -fpic

image:$(BSD_LIB)

$(BSD_LIB): $(OBJS)
(cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
$(MV) pic/$(BSD_LIB) .
$(RM) -f ../$(BSD_LIB)
(cd ..; $(LN) $(LINK_BUILD_FLAGS) `echo $(my_dir) | sed -e 's;lib/;;'`/$(BSD_LIB) $(BSD_LIB))

install-shlibs install:: $(BSD_LIB)
@echo "INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
@$(INSTALL_PROGRAM) $(BSD_LIB) \$(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB) \@-$(LDCONFIG)

install-strip: install

install-shlibs-strip: install-shlibs
uninstall-shlibs uninstall::
$(RM) -f $(DESTDIR)/$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)

clean::
$(RM) -rf pic
$(RM) -f $(BSD_LIB)
$(RM) -f ../$(BSD_LIB)

This is the Debian GNU/Linux prepackaged version of the Common Error Description library. It is currently distributed together with the EXT2 file system utilities, which are otherwise packaged as "e2fsprogs".

This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:
tsx-11.mit.edu:/pub/linux/packages/ext2fs/

From the original distribution:

Copyright 1987, 1988 by the Student Information Processing Board of the Massachusetts Institute of Technology

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the names of M.I.T. and the M.I.T. S.I.P.B. not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. M.I.T. and the M.I.T. S.I.P.B. make no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.
EXT2ED is hereby placed under the terms of the GNU General Public License. Follows the GNU license.

Gadi Oxman, August 1995

--------------------------------------------------------------------------------

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
675 Mass Ave, Cambridge, MA 02139, USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble
The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.
GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an
These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)
The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.
10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.

1.72 popt 1.16-14.el8
1.72.1 Available under license:

Copyright (c) 1998 Red Hat Software

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

1.73 json-c 0.13.1

1.73.1 Available under license:

Copyright (c) 2009-2012 Eric Haszlakiewicz

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 2004, 2005 Metaparadigm Pte Ltd

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

1.74 binutils 2.32.0

1.74.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.
TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.
A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains
in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:
a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded
from the Corresponding Source as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.
"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place
additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.
8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an
organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a
publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM
IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF
ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS
THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY
GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE
USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF
DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD
PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS),
EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF
SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.
This program is distributed in the hope that it will be useful, 
but WITHOUT ANY WARRANTY; without even the implied warranty of 
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the 
GNU General Public License for more details.

You should have received a copy of the GNU General Public License 
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short 
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author> 
This program comes with ABSOLUTELY NO WARRANTY; for details type 'show w'. 
This is free software, and you are welcome to redistribute it 
under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate 
parts of the General Public License. Of course, your program's commands 
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, 
if any, to sign a "copyright disclaimer" for the program, if necessary. 
For more information on this, and how to apply and follow the GNU GPL, see 
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program 
into proprietary programs. If your program is a subroutine library, you 
may consider it more useful to permit linking proprietary applications with 
the library. If this is what you want to do, use the GNU Lesser General 
Public License instead of this License. But first, please read 

1.75 squashfs-tools 4.3
1.75.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble
The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.
GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)
The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Program at all. For example, if a patent
license would not permit royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.
1.76.1 Available under license:
Mozilla Public License, version 2.0

1. Definitions

1.1. "Contributor"

means each individual or legal entity that creates, contributes to the creation of, or owns Covered Software.

1.2. "Contributor Version"

means the combination of the Contributions of others (if any) used by a Contributor and that particular Contributor's Contribution.

1.3. "Contribution"

means Covered Software of a particular Contributor.

1.4. "Covered Software"

means Source Code Form to which the initial Contributor has attached the notice in Exhibit A, the Executable Form of such Source Code Form, and Modifications of such Source Code Form, in each case including portions thereof.

1.5. "Incompatible With Secondary Licenses"

means

a. that the initial Contributor has attached the notice described in Exhibit B to the Covered Software; or

b. that the Covered Software was made available under the terms of version 1.1 or earlier of the License, but not also under the terms of a Secondary License.

1.6. "Executable Form"

means any form of the work other than Source Code Form.

1.7. "Larger Work"

means a work that combines Covered Software with other material, in a separate file or files, that is not Covered Software.

1.8. "License"

means this document.
1.9. "Licensable"

means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently, any and all of the rights conveyed by this License.

1.10. "Modifications"

means any of the following:

a. any file in Source Code Form that results from an addition to, deletion from, or modification of the contents of Covered Software; or

b. any new file in Source Code Form that contains any Covered Software.

1.11. "Patent Claims" of a Contributor

means any patent claim(s), including without limitation, method, process, and apparatus claims, in any patent Licensable by such Contributor that would be infringed, but for the grant of the License, by the making, using, selling, offering for sale, having made, import, or transfer of either its Contributions or its Contributor Version.

1.12. "Secondary License"

means either the GNU General Public License, Version 2.0, the GNU Lesser General Public License, Version 2.1, the GNU Affero General Public License, Version 3.0, or any later versions of those licenses.

1.13. "Source Code Form"

means the form of the work preferred for making modifications.

1.14. "You" (or "Your")

means an individual or a legal entity exercising rights under this License. For legal entities, "You" includes any entity that controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. License Grants and Conditions

2.1. Grants
Each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license:

a. under intellectual property rights (other than patent or trademark) Licensable by such Contributor to use, reproduce, make available, modify, display, perform, distribute, and otherwise exploit its Contributions, either on an unmodified basis, with Modifications, or as part of a Larger Work; and

b. under Patent Claims of such Contributor to make, use, sell, offer for sale, have made, import, and otherwise transfer either its Contributions or its Contributor Version.

2.2. Effective Date

The licenses granted in Section 2.1 with respect to any Contribution become effective for each Contribution on the date the Contributor first distributes such Contribution.

2.3. Limitations on Grant Scope

The licenses granted in this Section 2 are the only rights granted under this License. No additional rights or licenses will be implied from the distribution or licensing of Covered Software under this License. Notwithstanding Section 2.1(b) above, no patent license is granted by a Contributor:

a. for any code that a Contributor has removed from Covered Software; or

b. for infringements caused by: (i) Your and any other third party's modifications of Covered Software, or (ii) the combination of its Contributions with other software (except as part of its Contributor Version); or

c. under Patent Claims infringed by Covered Software in the absence of its Contributions.

This License does not grant any rights in the trademarks, service marks, or logos of any Contributor (except as may be necessary to comply with the notice requirements in Section 3.4).

2.4. Subsequent Licenses

No Contributor makes additional grants as a result of Your choice to distribute the Covered Software under a subsequent version of this License (see Section 10.2) or under the terms of a Secondary License (if permitted under the terms of Section 3.3).
2.5. Representation

Each Contributor represents that the Contributor believes its Contributions are its original creation(s) or it has sufficient rights to grant the rights to its Contributions conveyed by this License.

2.6. Fair Use

This License is not intended to limit any rights You have under applicable copyright doctrines of fair use, fair dealing, or other equivalents.

2.7. Conditions

Sections 3.1, 3.2, 3.3, and 3.4 are conditions of the licenses granted in Section 2.1.

3. Responsibilities

3.1. Distribution of Source Form

All distribution of Covered Software in Source Code Form, including any Modifications that You create or to which You contribute, must be under the terms of this License. You must inform recipients that the Source Code Form of the Covered Software is governed by the terms of this License, and how they can obtain a copy of this License. You may not attempt to alter or restrict the recipients' rights in the Source Code Form.

3.2. Distribution of Executable Form

If You distribute Covered Software in Executable Form then:

a. such Covered Software must also be made available in Source Code Form, as described in Section 3.1, and You must inform recipients of the Executable Form how they can obtain a copy of such Source Code Form by reasonable means in a timely manner, at a charge no more than the cost of distribution to the recipient; and

b. You may distribute such Executable Form under the terms of this License, or sublicense it under different terms, provided that the license for the Executable Form does not attempt to limit or alter the recipients' rights in the Source Code Form under this License.

3.3. Distribution of a Larger Work
You may create and distribute a Larger Work under terms of Your choice, provided that You also comply with the requirements of this License for the Covered Software. If the Larger Work is a combination of Covered Software with a work governed by one or more Secondary Licenses, and the Covered Software is not Incompatible With Secondary Licenses, this License permits You to additionally distribute such Covered Software under the terms of such Secondary License(s), so that the recipient of the Larger Work may, at their option, further distribute the Covered Software under the terms of either this License or such Secondary License(s).

3.4. Notices

You may not remove or alter the substance of any license notices (including copyright notices, patent notices, disclaimers of warranty, or limitations of liability) contained within the Source Code Form of the Covered Software, except that You may alter any license notices to the extent required to remedy known factual inaccuracies.

3.5. Application of Additional Terms

You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Software. However, You may do so only on Your own behalf, and not on behalf of any Contributor. You must make it absolutely clear that any such warranty, support, indemnity, or liability obligation is offered by You alone, and You hereby agree to indemnify every Contributor for any liability incurred by such Contributor as a result of warranty, support, indemnity or liability terms You offer. You may include additional disclaimers of warranty and limitations of liability specific to any jurisdiction.

4. Inability to Comply Due to Statute or Regulation

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Software due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be placed in a text file included with all distributions of the Covered Software under this License. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Termination

5.1. The rights granted under this License will terminate automatically if You fail to comply with any of its terms. However, if You become compliant,
then the rights granted under this License from a particular Contributor are reinstated (a) provisionally, unless and until such Contributor explicitly and finally terminates Your grants, and (b) on an ongoing basis, if such Contributor fails to notify You of the non-compliance by some reasonable means prior to 60 days after You have come back into compliance. Moreover, Your grants from a particular Contributor are reinstated on an ongoing basis if such Contributor notifies You of the non-compliance by some reasonable means, this is the first time You have received notice of non-compliance with this License from such Contributor, and You become compliant prior to 30 days after Your receipt of the notice.

5.2. If You initiate litigation against any entity by asserting a patent infringement claim (excluding declaratory judgment actions, counter-claims, and cross-claims) alleging that a Contributor Version directly or indirectly infringes any patent, then the rights granted to You by any and all Contributors for the Covered Software under Section 2.1 of this License shall terminate.

5.3. In the event of termination under Sections 5.1 or 5.2 above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or Your distributors under this License prior to termination shall survive termination.

6. Disclaimer of Warranty

Covered Software is provided under this License on an “as is” basis, without warranty of any kind, either expressed, implied, or statutory, including, without limitation, warranties that the Covered Software is free of defects, merchantable, fit for a particular purpose or non-infringing. The entire risk as to the quality and performance of the Covered Software is with You. Should any Covered Software prove defective in any respect, You (not any Contributor) assume the cost of any necessary servicing, repair, or correction. This disclaimer of warranty constitutes an essential part of this License. No use of any Covered Software is authorized under this License except under this disclaimer.

7. Limitation of Liability

Under no circumstances and under no legal theory, whether tort (including negligence), contract, or otherwise, shall any Contributor, or anyone who distributes Covered Software as permitted above, be liable to You for any direct, indirect, special, incidental, or consequential damages of any character including, without limitation, damages for lost profits, loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses, even if such party shall have been informed of the possibility of such damages. This limitation of liability shall not apply to liability for death or personal injury resulting from
such party's negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not apply to You.

8. Litigation

Any litigation relating to this License may be brought only in the courts of a jurisdiction where the defendant maintains its principal place of business and such litigation shall be governed by laws of that jurisdiction, without reference to its conflict-of-law provisions. Nothing in this Section shall prevent a party’s ability to bring cross-claims or counter-claims.

9. Miscellaneous

This License represents the complete agreement concerning the subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not be used to construe this License against a Contributor.

10. Versions of the License

10.1. New Versions

Mozilla Foundation is the license steward. Except as provided in Section 10.3, no one other than the license steward has the right to modify or publish new versions of this License. Each version will be given a distinguishing version number.

10.2. Effect of New Versions

You may distribute the Covered Software under the terms of the version of the License under which You originally received the Covered Software, or under the terms of any subsequent version published by the license steward.

10.3. Modified Versions

If you create software not governed by this License, and you want to create a new license for such software, you may create and use a modified version of this License if you rename the license and remove any references to the name of the license steward (except to note that such modified license differs from this License).
10.4. Distributing Source Code Form that is Incompatible With Secondary Licenses
If You choose to distribute Source Code Form that is Incompatible With Secondary Licenses under the terms of this version of the License, the notice described in Exhibit B of this License must be attached.

Exhibit A - Source Code Form License Notice

This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at http://mozilla.org/MPL/2.0/.

If it is not possible or desirable to put the notice in a particular file, then You may include the notice in a location (such as a LICENSE file in a relevant directory) where a recipient would be likely to look for such a notice.

You may add additional accurate notices of copyright ownership.

Exhibit B - "Incompatible With Secondary Licenses" Notice

This Source Code Form is "Incompatible With Secondary Licenses", as defined by the Mozilla Public License, v. 2.0.

Redistribution terms

Automated Testing Framework

===========================================================================

License

******

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright 2011, 2012 Google Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* Neither the name of Google Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Relicensed code
***************

The following code snippets have been taken from other projects. Even though they were not originally licensed under the terms above, the original authors have agreed to relicense their work so that this project
can be distributed under a single license. This section is put here just to clarify this fact.

* configure.ac, Makefile.am: The original versions were derived from the ones in the XML Catalog Manager project, version 2.2.

Author: Julio Merino <jmmv@users.sourceforge.net>

* atf-c/ui.c: The format_paragraph and format_text functions were derived from the ones in the Monotone project, revision 3a0982da308228d796df35f98d787c5cff2bb5bb6.

Author: Julio Merino <jmmv@NetBSD.org>

* atf-c++/detail/io.hpp, atf-c++/detail/io.cpp, atf-c++/detail/io_test.cpp: These files were derived from the file_handle, systembuf, pipe and pistream classes and tests found in the Boost.Process library.

Author: Julio Merino <jmmv84@gmail.com>

* admin/check-style.sh, admin/check-style-common.awk, admin/check-style-cpp.awk, admin/check-style-shell.awk: These files, except the first one, were first implemented in the Buildtool project. They were later adapted to be part of Boost.Process and, during that process, the shell script was created.

Author: Julio Merino <jmmv84@gmail.com>

===========================================================================
vim: filetype=text:textwidth=75:expandtab:shiftwidth=2:softtabstop=2
<!--
- This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at http://mozilla.org/MPL/2.0/.
-->

<!-- $Id$ -->

<!- Generate ISC copyright comments from Docbook copyright metadata. -->

This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at http://mozilla.org/MPL/2.0/.
License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at http://mozilla.org/MPL/2.0/.

Copyright (C) 2009-2015 Red Hat

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND AUTHORS DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL ISC BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright (c) 2005 - 2008, Holger Zuleger HZnet. All rights reserved.

This software is open source.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of Holger Zuleger HZnet nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Copyright (C) 1996-2017 Internet Systems Consortium, Inc. ("ISC")
This Source Code Form is subject to the terms of the Mozilla Public License, v. 2.0. If a copy of the MPL was not distributed with this file, You can obtain one at http://mozilla.org/MPL/2.0/.

-----------------------------------------------------------------------------
Portions of this code release fall under one or more of the following Copyright notices. Please see individual source files for details.

For binary releases also see: OpenSSL-LICENSE.

Copyright (C) 1996-2001 Nominum, Inc.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND NOMINUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL NOMINUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

-----------------------------------------------------------------------------
Copyright (C) 1995-2000 by Network Associates, Inc.

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND ISC AND NETWORK ASSOCIATES DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL ISC BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

-----------------------------------------------------------------------------
Copyright (C) 2002 Stichting NLnet, Netherlands, stichting@nl.net.nl.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the
above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND STICHTING NLNET
DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
STICHTING NLNET BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE
USE OR PERFORMANCE OF THIS SOFTWARE.

The development of Dynamically Loadable Zones (DLZ) for Bind 9 was
conceived and contributed by Rob Butler.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the
above copyright notice and this permission notice appear in all
copies.

THE SOFTWARE IS PROVIDED "AS IS" AND ROB BUTLER
DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL
ROB BUTLER BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR
CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS
OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE
USE OR PERFORMANCE OF THIS SOFTWARE.

--------------------------------------------------------------------------------

Copyright (c) 1987, 1990, 1993, 1994

The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors
   may be used to endorse or promote products derived from this software
   without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS \"AS IS\" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

---

Copyright (C) The Internet Society 2005. This version of this module is part of RFC 4178; see the RFC itself for full legal notices.

(The above copyright notice is per RFC 3978 5.6 (a), q.v.)

---

Copyright (c) 2004 Masarykova universita
(Masaryk University, Brno, Czech Republic)
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

--------------------------------------------------------------------------------

Copyright ((c)) 2002, Rice University
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* Neither the name of Rice University (RICE) nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

This software is provided by RICE and the contributors on an "as is" basis, without any representations or warranties of any kind, express or implied including, but not limited to, representations or warranties of non-infringement, merchantability or fitness for a particular purpose. In no event shall RICE or contributors be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) however caused and on any theory of liability, whether in contract, strict liability, or tort (including negligence or otherwise) arising in any way out of the use of this software, even if advised of the possibility of such damage.
Copyright (c) 1993 by Digital Equipment Corporation.

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies, and that the name of Digital Equipment Corporation not be used in advertising or publicity pertaining to distribution of the document or software without specific, written prior permission.

THE SOFTWARE IS PROVIDED "AS IS" AND DIGITAL EQUIPMENT CORP. DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright 2000 Aaron D. Gifford. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holder nor the names of contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR(S) AND CONTRIBUTOR(S) "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR(S) OR CONTRIBUTOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Copyright (c) 1998 Doug Rabson.
Copyright (c) 2001 Jake Burkholder.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS `AS IS' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the project nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE PROJECT AND CONTRIBUTORS `AS IS' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE PROJECT OR CONTRIBUTORS BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
SUCH DAMAGE.

----------------------------------------------------------------------------

Copyright (c) 1999-2000 by Nortel Networks Corporation

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND NORTEL NETWORKS DISCLAIMS
ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL NORTEL NETWORKS
BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES
OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS,
WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION,
ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
SOFTWARE.

----------------------------------------------------------------------------

Copyright (c) 2000-2002 Japan Network Information Center. All rights reserved.

By using this file, you agree to the terms and conditions set forth bellow.

LICENSE TERMS AND CONDITIONS

The following License Terms and Conditions apply, unless a different
license is obtained from Japan Network Information Center ("JPNIC"),
a Japanese association, Kokusai-Kougyou-Kanda Bldg 6F, 2-3-4 Uchi-Kanda,
Chiyoda-ku, Tokyo 101-0047, Japan.

1. Use, Modification and Redistribution (including distribution of any
modified or derived work) in source and/or binary forms is permitted
under this License Terms and Conditions.

2. Redistribution of source code must retain the copyright notices as they
appear in each source code file, this License Terms and Conditions.

3. Redistribution in binary form must reproduce the Copyright Notice,
this License Terms and Conditions, in the documentation and/or other
materials provided with the distribution. For the purposes of binary
distribution the "Copyright Notice" refers to the following language:
"Copyright (c) 2000-2002 Japan Network Information Center. All rights
reserved."

4. The name of JPNIC may not be used to endorse or promote products
derived from this Software without specific prior written approval of
JPNIC.

5. Disclaimer/Limitation of Liability: THIS SOFTWARE IS PROVIDED BY JPNIC
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JPNIC BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

---------------------------------------------------------------------------

Copyright (C) 2004  Nominet, Ltd.

Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND NOMINET DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS. IN NO EVENT SHALL ISC BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

---------------------------------------------------------------------------

Portions Copyright RSA Security Inc.

License to copy and use this software is granted provided that it is
identified as "RSA Security Inc. PKCS #11 Cryptographic Token Interface
(Cryptoki)" in all material mentioning or referencing this software.

License is also granted to make and use derivative works provided that
such works are identified as "derived from the RSA Security Inc. PKCS #11
Cryptographic Token Interface (Cryptoki)" in all material mentioning or
referencing the derived work.
RSA Security Inc. makes no representations concerning either the merchantability of this software or the suitability of this software for any particular purpose. It is provided "as is” without express or implied warranty of any kind.

--------------------------------------------------------------------------

Copyright (c) 1996, David Mazieres <dm@uun.org>
Copyright (c) 2008, Damien Miller <djm@openbsd.org>

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

--------------------------------------------------------------------------

Copyright (c) 2000-2001 The OpenSSL Project. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. All advertising materials mentioning features or use of this software must display the following acknowledgment:
   "This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.OpenSSL.org/"

4. The names "OpenSSL Toolkit” and "OpenSSL Project” must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact licensing@OpenSSL.org.
5. Products derived from this software may not be called "OpenSSL" nor may "OpenSSL" appear in their names without prior written permission of the OpenSSL Project.

6. Redistributions of any form whatsoever must retain the following acknowledgment:

"This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.OpenSSL.org/)"

THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

------------------------------------------------------------------------

Copyright (c) 1995, 1997, 1998 The NetBSD Foundation, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Copyright (C) 2008-2011 Red Hat, Inc.

Permission to use, copy, modify, and/or distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND Red Hat DISCLAIMS ALL WARRANTIES WITH
REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS. IN NO EVENT SHALL Red Hat BE LIABLE FOR ANY SPECIAL, DIRECT,
INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM
LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE
OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR
PERFORMANCE OF THIS SOFTWARE.

Copyright (c) 2013-2014, Farsight Security, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. Neither the name of the copyright holder nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED
TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR
CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO,
PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS;
OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR
OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF
ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Copyright (c) 2014 by Farsight Security, Inc.

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
Copyright (c) 2000-2002 Japan Network Information Center. All rights reserved.

By using this file, you agree to the terms and conditions set forth below.

LICENSE TERMS AND CONDITIONS

The following License Terms and Conditions apply, unless a different
license is obtained from Japan Network Information Center ("JPNIC"),
a Japanese association, Kokusai-Kougyou-Kanda Bldg 6F, 2-3-4 Uchi-Kanda,
Chiyoda-ku, Tokyo 101-0047, Japan.

1. Use, Modification and Redistribution (including distribution of any
modified or derived work) in source and/or binary forms is permitted
under this License Terms and Conditions.

2. Redistribution of source code must retain the copyright notices as they
appear in each source code file, this License Terms and Conditions.

3. Redistribution in binary form must reproduce the Copyright Notice,
this License Terms and Conditions, in the documentation and/or other
materials provided with the distribution. For the purposes of binary
distribution the "Copyright Notice" refers to the following language:
"Copyright (c) 2000-2002 Japan Network Information Center. All rights reserved."

4. The name of JPNIC may not be used to endorse or promote products
derived from this Software without specific prior written approval of
JPNIC.

5. Disclaimer/Limitation of Liability: THIS SOFTWARE IS PROVIDED BY JPNIC
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A
PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JPNIC BE LIABLE
FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

1.77 libyaml 0.2.2
1.77.1 Available under license:
Copyright (c) 2012 Stphan Kochen

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 2006 Kirill Simonov

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

1.78 libssh2 1.8.2

1.78.1 Available under license:

/* Copyright (c) 2004-2007 Sara Golemon <sarag@libssh2.org>
 * Copyright (c) 2005,2006 Mikhail Gusarov <dottedmag@dottedmag.net>
 * Copyright (c) 2006-2007 The Written Word, Inc.
 * Copyright (c) 2007 Eli Fant <elifantu@mail.ru>
 * Copyright (c) 2009-2014 Daniel Stenberg
 * Copyright (C) 2008, 2009 Simon Josefsson
 * All rights reserved.
 *
 * Redistribution and use in source and binary forms,
 * with or without modification, are permitted provided
 * that the following conditions are met:
 *
 * Redistributions of source code must retain the above
 * copyright notice, this list of conditions and the
 * following disclaimer.
 *
 * Redistributions in binary form must reproduce the above
 * copyright notice, this list of conditions and the following
 * disclaimer in the documentation and/or other materials
 * provided with the distribution.
 *
 * Neither the name of the copyright holder nor the names
 * of any other contributors may be used to endorse or
 * promote products derived from this software without
 * specific prior written permission.
 *
 * THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND
 * CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
 * INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
 * OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
 * ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR
 * CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
 * SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
 * BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
 * SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
 * INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
 * WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
 * NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
 * USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY
 * OF SUCH DAMAGE.
 */
1.79 lua 5.1.3

1.79.1 Available under license:
License for Lua 5.0 and later versions
Copyright 1994-2008 Lua.org, PUC-Rio.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

1.80 rsync 3.1.3

1.80.1 Available under license:
GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.
When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.
TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.
A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains
in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:
a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.

d) Convey the object code by offering access from a designated
place (gratis or for a charge), and offer equivalent access to the
Corresponding Source in the same way through the same place at no
further charge. You need not require recipients to copy the
Corresponding Source along with the object code. If the place to
copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party)
that supports equivalent copying facilities, provided you maintain
clear directions next to the object code saying where to find the
Corresponding Source. Regardless of what server hosts the
Corresponding Source, you remain obligated to ensure that it is
available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided
you inform other peers where the object code and Corresponding
Source of the work are being offered to the general public at no
charge under subsection 6d.

A separable portion of the object code, whose source code is excluded
from the Corresponding Source as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any
tangible personal property which is normally used for personal, family,
or household purposes, or (2) anything designed or sold for incorporation
into a dwelling. In determining whether a product is a consumer product,
doubtful cases shall be resolved in favor of coverage. For a particular
product received by a particular user, "normally used" refers to a
typical or common use of that class of product, regardless of the status
of the particular user or of the way in which the particular user
actually uses, or expects or is expected to use, the product. A product
is a consumer product regardless of whether the product has substantial
commercial, industrial or non-consumer uses, unless such uses represent
the only significant mode of use of the product.
"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place
additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.
8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an
organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a
publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this
License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF
ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.
Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

1.81 diffutils 3.7

1.81.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps:
(1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.
A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to
control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such
measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source
may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).
The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or
authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have
received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.
A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.
A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

1.82 python 3.7.8

1.82.1 Available under license:

A. HISTORY OF THE SOFTWARE

Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see http://www.cwi.nl) in the Netherlands as a successor of a language called ABC. Guido remains Python’s principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see http://www.cnri.reston.va.us) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations, which became Zope Corporation. In 2001, the Python Software Foundation (PSF, see https://www.python.org/psf/) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation was a sponsoring member of the PSF.

All Python releases are Open Source (see http://www.opensource.org for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

<table>
<thead>
<tr>
<th>Release</th>
<th>Derived from</th>
<th>Year</th>
<th>Owner</th>
<th>GPL-compatible? (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9.0 thru 1.2</td>
<td>1.2</td>
<td>1991-1995</td>
<td>CWI</td>
<td>yes</td>
</tr>
<tr>
<td>1.3 thru 1.5.2</td>
<td>1.2</td>
<td>1995-1999</td>
<td>CNRI</td>
<td>yes</td>
</tr>
<tr>
<td>1.6</td>
<td>1.5.2</td>
<td>2000</td>
<td>CNRI</td>
<td>no</td>
</tr>
<tr>
<td>2.0</td>
<td>1.6</td>
<td>2000</td>
<td>BeOpen.com</td>
<td>no</td>
</tr>
<tr>
<td>Version</td>
<td>Preceding Version</td>
<td>Date</td>
<td>License</td>
<td>Distribution</td>
</tr>
<tr>
<td>---------</td>
<td>------------------</td>
<td>---------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>1.6.1</td>
<td>1.6</td>
<td>2001</td>
<td>CNRI</td>
<td>yes (2)</td>
</tr>
<tr>
<td>2.1</td>
<td>2.0+1.6.1</td>
<td>2001</td>
<td>PSF</td>
<td>no</td>
</tr>
<tr>
<td>2.0.1</td>
<td>2.0+1.6.1</td>
<td>2001</td>
<td>PSF</td>
<td>yes</td>
</tr>
<tr>
<td>2.1.1</td>
<td>2.1+2.0.1</td>
<td>2001</td>
<td>PSF</td>
<td>yes</td>
</tr>
<tr>
<td>2.1.2</td>
<td>2.1.1</td>
<td>2002</td>
<td>PSF</td>
<td>yes</td>
</tr>
<tr>
<td>2.1.3</td>
<td>2.1.2</td>
<td>2002</td>
<td>PSF</td>
<td>yes</td>
</tr>
<tr>
<td>2.2 and above</td>
<td>2.1.1</td>
<td>2001-now</td>
<td>PSF</td>
<td>yes</td>
</tr>
</tbody>
</table>

Footnotes:

(1) GPL-compatible doesn't mean that we're distributing Python under the GPL. All Python licenses, unlike the GPL, let you distribute a modified version without making your changes open source. The GPL-compatible licenses make it possible to combine Python with other software that is released under the GPL; the others don't.

(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

B. TERMS AND CONDITIONS FOR ACCESSING OR OTHERWISE USING PYTHON

============================================================================

PYTHON SOFTWARE FOUNDATION LICENSE VERSION 2

1. This LICENSE AGREEMENT is between the Python Software Foundation ("PSF"), and the Individual or Organization ("Licensee") accessing and otherwise using this software ("Python") in source or binary form and its associated documentation.


3. In the event Licensee prepares a derivative work that is based on or incorporates Python or any part thereof, and wants to make
the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python.

4. PSF is making Python available to Licensee on an "AS IS" basis. PSF MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, PSF MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. PSF SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between PSF and Licensee. This License Agreement does not grant permission to use PSF trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.

8. By copying, installing or otherwise using Python, Licensee agrees to be bound by the terms and conditions of this License Agreement.

BEOPEN.COM LICENSE AGREEMENT FOR PYTHON 2.0
-------------------------------------------
BEOPEN PYTHON OPEN SOURCE LICENSE AGREEMENT VERSION 1

1. This LICENSE AGREEMENT is between BeOpen.com ("BeOpen"), having an office at 160 Saratoga Avenue, Santa Clara, CA 95051, and the Individual or Organization ("Licensee") accessing and otherwise using this software in source or binary form and its associated documentation ("the Software").

2. Subject to the terms and conditions of this BeOpen Python License Agreement, BeOpen hereby grants Licensee a non-exclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use the Software alone or in any derivative version, provided, however, that the BeOpen Python License is retained in the Software, alone or in any derivative version prepared by Licensee.
3. BeOpen is making the Software available to Licensee on an "AS IS" basis. BEOPEN MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, BEOPEN MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF THE SOFTWARE WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

4. BEOPEN SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF THE SOFTWARE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF USING, MODIFYING OR DISTRIBUTING THE SOFTWARE, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

5. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

6. This License Agreement shall be governed by and interpreted in all respects by the law of the State of California, excluding conflict of law provisions. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between BeOpen and Licensee. This License Agreement does not grant permission to use BeOpen trademarks or trade names in a trademark sense to endorse or promote products or services of Licensee, or any third party. As an exception, the "BeOpen Python" logos available at http://www.pythonlabs.com/logos.html may be used according to the permissions granted on that web page.

7. By copying, installing or otherwise using the software, Licensee agrees to be bound by the terms and conditions of this License Agreement.

CNRI LICENSE AGREEMENT FOR PYTHON 1.6.1
---------------------------------------

1. This LICENSE AGREEMENT is between the Corporation for National Research Initiatives, having an office at 1895 Preston White Drive, Reston, VA 20191 ("CNRI"), and the Individual or Organization ("Licensee") accessing and otherwise using Python 1.6.1 software in source or binary form and its associated documentation.

2. Subject to the terms and conditions of this License Agreement, CNRI hereby grants Licensee a nonexclusive, royalty-free, world-wide license to reproduce, analyze, test, perform and/or display publicly, prepare derivative works, distribute, and otherwise use Python 1.6.1 alone or in any derivative version, provided, however, that CNRI's License Agreement and CNRI's notice of copyright, i.e., "Copyright (c) 1995-2001 Corporation for National Research Initiatives; All Rights
Reserved" are retained in Python 1.6.1 alone or in any derivative version prepared by Licensee. Alternately, in lieu of CNRI's License Agreement, Licensee may substitute the following text (omitting the quotes): "Python 1.6.1 is made available subject to the terms and conditions in CNRI's License Agreement. This Agreement together with Python 1.6.1 may be located on the Internet using the following unique, persistent identifier (known as a handle): 1895.22/1013. This Agreement may also be obtained from a proxy server on the Internet using the following URL: http://hdl.handle.net/1895.22/1013".

3. In the event Licensee prepares a derivative work that is based on or incorporates Python 1.6.1 or any part thereof, and wants to make the derivative work available to others as provided herein, then Licensee hereby agrees to include in any such work a brief summary of the changes made to Python 1.6.1.

4. CNRI is making Python 1.6.1 available to Licensee on an "AS IS" basis. CNRI MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED. BY WAY OF EXAMPLE, BUT NOT LIMITATION, CNRI MAKES NO AND DISCLAIMS ANY REPRESENTATION OR WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR THAT THE USE OF PYTHON 1.6.1 WILL NOT INFRINGE ANY THIRD PARTY RIGHTS.

5. CNRI SHALL NOT BE LIABLE TO LICENSEE OR ANY OTHER USERS OF PYTHON 1.6.1 FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OR LOSS AS A RESULT OF MODIFYING, DISTRIBUTING, OR OTHERWISE USING PYTHON 1.6.1, OR ANY DERIVATIVE THEREOF, EVEN IF ADVISED OF THE POSSIBILITY THEREOF.

6. This License Agreement will automatically terminate upon a material breach of its terms and conditions.

7. This License Agreement shall be governed by the federal intellectual property law of the United States, including without limitation the federal copyright law, and, to the extent such U.S. federal law does not apply, by the law of the Commonwealth of Virginia, excluding Virginia's conflict of law provisions. Notwithstanding the foregoing, with regard to derivative works based on Python 1.6.1 that incorporate non-separable material that was previously distributed under the GNU General Public License (GPL), the law of the Commonwealth of Virginia shall govern this License Agreement only as to issues arising under or with respect to Paragraphs 4, 5, and 7 of this License Agreement. Nothing in this License Agreement shall be deemed to create any relationship of agency, partnership, or joint venture between CNRI and Licensee. This License Agreement does not grant permission to use CNRI trademarks or trade name in a trademark sense to endorse or promote products or services of Licensee, or any third party.
8. By clicking on the "ACCEPT" button where indicated, or by copying, installing or otherwise using Python 1.6.1, Licensee agrees to be bound by the terms and conditions of this License Agreement.

ACCEPT

CWI LICENSE AGREEMENT FOR PYTHON 0.9.0 THROUGH 1.2

--------------------------------------------------

Copyright (c) 1991 - 1995, Stichting Mathematisch Centrum Amsterdam, The Netherlands. All rights reserved.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Stichting Mathematisch Centrum or CWI not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

STICHTING MATHEMATISCH CENTRUM DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL STICHTING MATHEMATISCH CENTRUM BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

1.83 net-tools 1.60

1.83.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
675 Mass Ave, Cambridge, MA 02139, USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but
These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of
You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

1.84 sed 4.2.2

1.84.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program—to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to
use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.
An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work’s System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.
The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and
appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.
You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be
included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.
7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is
governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work
occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.
Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.
Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.
Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>

This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, your program's commands
might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school,
if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see
<http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program
into proprietary programs. If your program is a subroutine library, you
may consider it more useful to permit linking proprietary applications with
the library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License. But first, please read

GNU Free Documentation License
Version 1.3, 3 November 2008
0. PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document "free" in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

1. APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you". You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the
publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain ASCII without markup, TeXinfo input format, LaTeX input format, SGML or XML using a publicly available DTD, and standard-conforming simple HTML, PostScript or PDF designed for human modification. Examples of transparent image formats include PNG, XCF and JPG. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, SGML or XML for which the DTD and/or processing tools are not generally available, and the machine-generated HTML, PostScript or PDF produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material
this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work’s title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History"). To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

2. VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

3. COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present
the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.

4. MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.
B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five),
unless they release you from this requirement.
C. State on the Title page the name of the publisher of the
   Modified Version, as the publisher.
D. Preserve all the copyright notices of the Document.
E. Add an appropriate copyright notice for your modifications
   adjacent to the other copyright notices.
F. Include, immediately after the copyright notices, a license notice
   giving the public permission to use the Modified Version under the
   terms of this License, in the form shown in the Addendum below.
G. Preserve in that license notice the full lists of Invariant Sections
   and required Cover Texts given in the Document's license notice.
H. Include an unaltered copy of this License.
I. Preserve the section Entitled "History", Preserve its Title, and add
   to it an item stating at least the title, year, new authors, and
   publisher of the Modified Version as given on the Title Page. If
   there is no section Entitled "History" in the Document, create one
   stating the title, year, authors, and publisher of the Document as
   given on its Title Page, then add an item describing the Modified
   Version as stated in the previous sentence.
J. Preserve the network location, if any, given in the Document for
   public access to a Transparent copy of the Document, and likewise
   the network locations given in the Document for previous versions
   it was based on. These may be placed in the "History" section.
   You may omit a network location for a work that was published at
   least four years before the Document itself, or if the original
   publisher of the version it refers to gives permission.
K. For any section Entitled "Acknowledgements" or "Dedications",
   Preserve the Title of the section, and preserve in the section all
   the substance and tone of each of the contributor acknowledgements
   and/or dedications given therein.
L. Preserve all the Invariant Sections of the Document,
   unaltered in their text and in their titles. Section numbers
   or the equivalent are not considered part of the section titles.
M. Delete any section Entitled "Endorsements". Such a section
   may not be included in the Modified Version.
N. Do not retile any existing section to be Entitled "Endorsements"
   or to conflict in title with any Invariant Section.
O. Preserve any Warranty Disclaimers.

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document, you may at your option designate some or all
of these sections as invariant. To do this, add their titles to the
list of Invariant Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains
nothing but endorsements of your Modified Version by various
parties—for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

5. COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History" in the various original documents, forming one section Entitled "History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements".

6. COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual
copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

7. AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

8. TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements",...
"Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

9. TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

10. FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See http://www.gnu.org/copyleft/.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not
as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

11. RELICENSING

"Massive Multiauthor Collaboration Site" (or "MMC Site") means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A "Massive Multiauthor Collaboration" (or "MMC") contained in the site means any set of copyrightable works thus published on the MMC site.

"CC-BY-SA" means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

"Incorporate" means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is "eligible for relicensing" if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

Copyright (c) YEAR YOUR NAME.
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled "GNU Free Documentation License".
If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the "with...Texts." line with this:

   with the Invariant Sections being LIST THEIR TITLES, with the Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST.

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

1.85 tcl 8.3.4
1.85.1 Available under license:
The author disclaims copyright to this source code. In place of a legal notice, here is a blessing:

   May you do good and not evil.
   May you find forgiveness for yourself and forgive others.
   May you share freely, never taking more than you give.
This software is copyrighted by Kevin B. Kenny, and by other parties.
The following terms apply to all files associated with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute, and license this software and its documentation for any purpose, provided that existing copyright notices are retained in all copies and that this notice is included verbatim in any distributions. No written agreement, license, or royalty fee is required for any of the authorized uses.

Modifications to this software may be copyrighted by their authors and need not follow the licensing terms described here, provided that the new terms are clearly indicated on the first page of each file where they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY DERIVATIVES THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the U.S. government, the Government shall have only "Restricted Rights" in the software and related documentation as defined in the Federal Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you are acquiring the software on behalf of the Department of Defense, the software shall be classified as "Commercial Computer Software" and the Government shall have only "Restricted Rights" as defined in Clause 252.227-7013 (c) (1) of DFARs. Notwithstanding the foregoing, the authors grant the U.S. Government and others acting in its behalf permission to use and distribute the software in accordance with the terms specified in this license.

This software is copyrighted by Kevin B. Kenny, and by other parties. The following terms apply to all files associated with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute, and license this software and its documentation for any purpose, provided that existing copyright notices are retained in all copies and that this notice is included verbatim in any distributions. No written agreement, license, or royalty fee is required for any of the authorized uses. Modifications to this software may be copyrighted by their authors and need not follow the licensing terms described here, provided that the new terms are clearly indicated on the first page of each file where they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY DERIVATIVES THEREOF. EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT. THIS SOFTWARE IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the U.S. government, the Government shall have only "Restricted Rights" in the software and related documentation as defined in the Federal Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you are acquiring the software on behalf of the Department of Defense, the
software shall be classified as "Commercial Computer Software" and the
Government shall have only "Restricted Rights" as defined in Clause
252.227-7013 (c) (1) of DFARs. Notwithstanding the foregoing, the
authors grant the U.S. Government and others acting in its behalf
permission to use and distribute the software in accordance with the
terms specified in this license.

------------------------------------------------------------------------

AUTHOR:  Michael J. McLennan
    Bell Labs Innovations for Lucent Technologies
    mmclennan@lucent.com
    http://www.tcltk.com/tcl

========================================================================
Copyright (c) 1993-1996  Lucent Technologies
========================================================================
Permission to use, copy, modify, and distribute this software and its
documentation for any purpose and without fee is hereby granted,
provided that the above copyright notice appear in all copies and that
both that the copyright notice and warranty disclaimer appear in
supporting documentation, and that the names of Lucent Technologies
any of their entities not be used in advertising or publicity
pertaining to distribution of the software without specific, written
prior permission.

Lucent Technologies disclaims all warranties with regard to this
software, including all implied warranties of merchantability and
fitness. In no event shall Lucent be liable for any special, indirect
or consequential damages or any damages whatsoever resulting from loss
of use, data or profits, whether in an action of contract, negligence
or other tortuous action, arising out of or in connection with the use
or performance of this software.

========================================================================
This software is copyrighted by Slawomir Cygan, and by other parties.
The following terms apply to all files associated with the software
unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute,
and license this software and its documentation for any purpose, provided
that existing copyright notices are retained in all copies and that this
notice is included verbatim in any distributions. No written agreement,
license, or royalty fee is required for any of the authorized uses.
Modifications to this software may be copyrighted by their authors
and need not follow the licensing terms described here, provided that
the new terms are clearly indicated on the first page of each file where
they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY
FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY DERIVATIVES THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the U.S. government, the Government shall have only "Restricted Rights" in the software and related documentation as defined in the Federal Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you are acquiring the software on behalf of the Department of Defense, the software shall be classified as "Commercial Computer Software" and the Government shall have only "Restricted Rights" as defined in Clause 252.227-7013 (c) (1) of DFARs. Notwithstanding the foregoing, the authors grant the U.S. Government and others acting in its behalf permission to use and distribute the software in accordance with the terms specified in this license.

This software is copyrighted by the Regents of the University of California, Sun Microsystems, Inc., Scriptics Corporation, and other parties. The following terms apply to all files associated with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute, and license this software and its documentation for any purpose, provided that existing copyright notices are retained in all copies and that this notice is included verbatim in any distributions. No written agreement, license, or royalty fee is required for any of the authorized uses.

Modifications to this software may be copyrighted by their authors and need not follow the licensing terms described here, provided that the new terms are clearly indicated on the first page of each file where they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY DERIVATIVES THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE
NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the U.S. government, the Government shall have only "Restricted Rights" in the software and related documentation as defined in the Federal Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you are acquiring the software on behalf of the Department of Defense, the software shall be classified as "Commercial Computer Software" and the Government shall have only "Restricted Rights" as defined in Clause 252.227-7013 (c) (1) of DFARs. Notwithstanding the foregoing, the authors grant the U.S. Government and others acting in its behalf permission to use and distribute the software in accordance with the terms specified in this license.

This software is copyrighted by the Scriptics Corporation, and other parties. The following terms apply to all files associated with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute, and license this software and its documentation for any purpose, provided that existing copyright notices are retained in all copies and that this notice is included verbatim in any distributions. No written agreement, license, or royalty fee is required for any of the authorized uses.

Modifications to this software may be copyrighted by their authors and need not follow the licensing terms described here, provided that the new terms are clearly indicated on the first page of each file where they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY DERIVATIVES THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the U.S. government, the Government shall have only "Restricted Rights" in the software and related documentation as defined in the Federal Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you are acquiring the software on behalf of the Department of Defense, the software shall be classified as "Commercial Computer Software" and the Government shall have only "Restricted Rights" as defined in Clause
Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This is a mostly rewritten version of [incr Tcl], which is copyrighted by Arnulf P. Wiedemann (c) Copyright 2008. It is derived from a version written by Lucent Technologies, Inc., and other parties see that copyright below.

The rewritten version is copyrighted with BSD license or Public Domain at your choice.

The original version of this software is copyrighted by Lucent Technologies, Inc., and other parties. The following terms apply to all files associated with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute, and license this software and its documentation for any purpose, provided that existing copyright notices are retained in all copies and that this notice is included verbatim in any distributions. No written agreement, license, or royalty fee is required for any of the authorized uses. Modifications to this software may be copyrighted by their authors and need not follow the licensing terms described here, provided that the new terms are clearly indicated on the first page of each file where they apply.
IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY DERIVATIVES THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the U.S. government, the Government shall have only "Restricted Rights" in the software and related documentation as defined in the Federal Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you are acquiring the software on behalf of the Department of Defense, the software shall be classified as "Commercial Computer Software" and the Government shall have only "Restricted Rights" as defined in Clause 252.227-7013 (c) (1) of DFARs. Notwithstanding the foregoing, the authors grant the U.S. Government and others acting in its behalf permission to use and distribute the software in accordance with the terms specified in this license.

This software is copyrighted by the Regents of the University of California, Sun Microsystems, Inc., Scriptics Corporation, ActiveState Corporation and other parties. The following terms apply to all files associated with the software unless explicitly disclaimed in individual files.

The authors hereby grant permission to use, copy, modify, distribute, and license this software and its documentation for any purpose, provided that existing copyright notices are retained in all copies and that this notice is included verbatim in any distributions. No written agreement, license, or royalty fee is required for any of the authorized uses. Modifications to this software may be copyrighted by their authors and need not follow the licensing terms described here, provided that the new terms are clearly indicated on the first page of each file where they apply.

IN NO EVENT SHALL THE AUTHORS OR DISTRIBUTORS BE LIABLE TO ANY PARTY FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF THIS SOFTWARE, ITS DOCUMENTATION, OR ANY DERIVATIVES THEREOF, EVEN IF THE AUTHORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

THE AUTHORS AND DISTRIBUTORS SPECIFICALLY DISCLAIM ANY WARRANTIES.
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THIS SOFTWARE
IS PROVIDED ON AN "AS IS" BASIS, AND THE AUTHORS AND DISTRIBUTORS HAVE
NO OBLIGATION TO PROVIDE MAINTENANCE, SUPPORT, UPDATES, ENHANCEMENTS, OR
MODIFICATIONS.

GOVERNMENT USE: If you are acquiring this software on behalf of the
U.S. government, the Government shall have only "Restricted Rights"
in the software and related documentation as defined in the Federal
Acquisition Regulations (FARs) in Clause 52.227.19 (c) (2). If you
are acquiring the software on behalf of the Department of Defense, the
software shall be classified as "Commercial Computer Software" and the
Government shall have only "Restricted Rights" as defined in Clause
252.227-7014 (b) (3) of DFARs. Notwithstanding the foregoing, the
authors grant the U.S. Government and others acting in its behalf
permission to use and distribute the software in accordance with the
terms specified in this license.

1.86 lz4 1.9.2

1.86.1 Available under license:

This repository uses 2 different licenses:
- all files in the `lib` directory use a BSD 2-Clause license
- all other files use a GPLv2 license, unless explicitly stated otherwise

Relevant license is reminded at the top of each source file,
and with presence of COPYING or LICENSE file in associated directories.

This model is selected to emphasize that
files in the `lib` directory are designed to be included into 3rd party applications,
while all other files, in `programs`, `tests` or `examples`,
receive more limited attention and support for such scenario.

LZ4 Library
Copyright (c) 2011-2016, Yann Collet
All rights reserved.

Redistribution and use in source and binary forms, with or without modification,
are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this
  list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this
  list of conditions and the following disclaimer in the documentation and/or
  other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND
ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of
Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and “any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:
Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

Copyright (c) 2014, Ip santil
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Format: http://www.debian.org/doc/packaging-manuals/copyright-format/1.0/
Upstream-Name: liblz4
Upstream-Contact: Yann Collet <Cyan4973@github.com>
Source: https://github.com/lz4/lz4

Files: *
Copyright: (C) 2011+ Yann Collet
License: GPL-2+
The full text of license: https://github.com/Cyan4973/lz4/blob/master/lib/LICENSE
1.87 policycoreutils 2.9-9.el8

1.87.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software—-to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

    Gnomovision version 69, Copyright (C) year name of author
    Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
    This is free software, and you are welcome to redistribute it
    under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

    Yoyodyne, Inc., hereby disclaims all copyright interest in the program
    `Gnomovision' (which makes passes at compilers) written by James Hacker.
This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

1.88 sqlite 3.27.0

1.89 zlib 1.2.8

1.89.1 Available under license:

/* zlib.h -- interface of the 'zlib' general purpose compression library
   version 1.2.11, January 15th, 2017

   Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler

   This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

   Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

   1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
   2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
   3. This notice may not be removed or altered from any source distribution.

   Jean-loup Gailly         Mark Adler
   jloup@gzip.org           madler@alumni.caltech.edu

   The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files http://tools.ietf.org/html/rfc1950 (zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).
   */
1.90 bzip2 1.0.8

1.91 fdisk 2.34.0
1.91.1 Available under license:

/*
 * Copyright (c) 1989 The Regents of the University of California.
 * All rights reserved.
 *
 * Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
 * 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
 * 3. All advertising materials mentioning features or use of this software must display the following acknowledgement:
 *   This product includes software developed by the University of California, Berkeley and its contributors.
 * 4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
 *
 * THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
 */

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

The complete text of the license is available in the ../Documentation/licenses/COPYING.LGPL-2.1-or-later file.
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation’s software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author’s protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices
b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete 
machine-readable copy of the corresponding source code, to be 
distributed under the terms of Sections 1 and 2 above on a medium 
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer 
to distribute corresponding source code. (This alternative is 
allowed only for noncommercial distribution and only if you 
received the program in object code or executable form with such 
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for 
making modifications to it. For an executable work, complete source 
code means all the source code for all modules it contains, plus any 
associated interface definition files, plus the scripts used to 
control compilation and installation of the executable. However, as a 
special exception, the source code distributed need not include 
anything that is normally distributed (in either source or binary 
form) with the major components (compiler, kernel, and so on) of the 
operating system on which the executable runs, unless that component 
itself accompanies the executable.

If distribution of executable or object code is made by offering 
access to copy from a designated place, then offering equivalent 
access to copy the source code from the same place counts as 
distribution of the source code, even though third parties are not 
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program 
except as expressly provided under this License. Any attempt 
otherwise to copy, modify, sublicense or distribute the Program is 
void, and will automatically terminate your rights under this License. 
However, parties who have received copies, or rights, from you under 
this License will not have their licenses terminated so long as such 
parties remain in full compliance.

5. You are not required to accept this License, since you have not 
signed it. However, nothing else grants you permission to modify or 
distribute the Program or its derivative works. These actions are 
prohibited by law if you do not accept this License. Therefore, by 
modifying or distributing the Program (or any work based on the 
Program), you indicate your acceptance of this License to do so, and 
all its terms and conditions for copying, distributing or modifying 
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the 
Program), the recipient automatically receives a license from the 
original licensor to copy, distribute or modify the Program subject to
these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.
To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

    Gnomovision version 69, Copyright (C) year name of author
    Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
    This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

    Yoyodyne, Inc., hereby disclaims all copyright interest in the program
    'Gnomovision' (which makes passes at compilers) written by James Hacker.

    <signature of Ty Coon>, 1 April 1989
    Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free
library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.
Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)
These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:
a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.
7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

   a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

   b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, and the entire permission notice in its entirety,
   including the disclaimer of warranties.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
This library is free software; you can redistribute it and/or modify it under the terms of the Modified BSD License.

The complete text of the license is available in the
../Documentation/licenses/COPYING.BSD-3-Clause file.

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

The complete text of the license is available in the
../Documentation/licenses/COPYING.LGPL-2.1-or-later

Permission to use, copy, modify, and/or distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
1.92 elfutils 0.178

1.92.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
authors' reputations.

Finally, any free program is threatened constantly by software
patents. We wish to avoid the danger that redistributors of a free
program will individually obtain patent licenses, in effect making the
program proprietary. To prevent this, we have made it clear that any
patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and
modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License
giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based
To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's
System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.
When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.
A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party).
that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a
requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or
e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that
copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this
License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within
the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.
Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program>  Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'. This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

This license applies to the eu-readelf.1 man page which was forked from the binutils readelf version of the man page. The rest of the documentation is provided under the license found in the top level directory.

GNU Free Documentation License
Version 1.3, 3 November 2008


Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

0. PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document "free" in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondly, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of "copyleft", which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

1. APPLICABILITY AND DEFINITIONS
This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The "Document", below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as "you". You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A "Modified Version" of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A "Secondary Section" is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The "Invariant Sections" are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The "Cover Texts" are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A "Transparent" copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file format whose markup, or absence of markup, has been arranged to thwart
or discourage subsequent modification by readers is not Transparent.  
An image format is not Transparent if used for any substantial amount 
of text.  A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain 
ASCII without markup, Texinfo input format, LaTeX input format, SGML 
or XML using a publicly available DTD, and standard-conforming simple 
HTML, PostScript or PDF designed for human modification. Examples of 
transparent image formats include PNG, XCF and JPG. Opaque formats 
include proprietary formats that can be read and edited only by 
proprietary word processors, SGML or XML for which the DTD and/or 
processing tools are not generally available, and the 
machine-generated HTML, PostScript or PDF produced by some word 
processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, 
plus such following pages as are needed to hold, legibly, the material 
this License requires to appear in the title page.  For works in 
formats which do not have any title page as such, "Title Page" means 
the text near the most prominent appearance of the work's title, 
preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of 
the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose 
title either is precisely XYZ or contains XYZ in parentheses following 
text that translates XYZ in another language.  (Here XYZ stands for a 
specific section name mentioned below, such as "Acknowledgements", 
"Dedications", "Endorsements", or "History").  To "Preserve the Title" 
of such a section when you modify the Document means that it remains a 
section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which 
states that this License applies to the Document.  These Warranty 
Disclaimers are considered to be included by reference in this 
License, but only as regards disclaiming warranties: any other 
implication that these Warranty Disclaimers may have is void and has 
no effect on the meaning of this License.

2. VERBATIM COPYING

You may copy and distribute the Document in any medium, either 
commercially or noncommercially, provided that this License, the 
copyright notices, and the license notice saying this License applies 
to the Document are reproduced in all copies, and that you add no 
other conditions whatsoever to those of this License.  You may not use 
technical measures to obstruct or control the reading or further
copying of the copies you make or distribute. However, you may accept
compensation in exchange for copies. If you distribute a large enough
number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and
you may publicly display copies.

3. COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have
printed covers) of the Document, numbering more than 100, and the
Document's license notice requires Cover Texts, you must enclose the
copies in covers that carry, clearly and legibly, all these Cover
Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on
the back cover. Both covers must also clearly and legibly identify
you as the publisher of these copies. The front cover must present
the full title with all words of the title equally prominent and
visible. You may add other material on the covers in addition.
Copying with changes limited to the covers, as long as they preserve
the title of the Document and satisfy these conditions, can be treated
as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit
legibly, you should put the first ones listed (as many as fit
reasonably) on the actual cover, and continue the rest onto adjacent
pages.

If you publish or distribute Opaque copies of the Document numbering
more than 100, you must either include a machine-readable Transparent
copy along with each Opaque copy, or state in or with each Opaque copy
a computer-network location from which the general network-using
public has access to download using public-standard network protocols
a complete Transparent copy of the Document, free of added material.
If you use the latter option, you must take reasonably prudent steps,
when you begin distribution of Opaque copies in quantity, to ensure
that this Transparent copy will remain thus accessible at the stated
location until at least one year after the last time you distribute an
Opaque copy (directly or through your agents or retailers) of that
edition to the public.

It is requested, but not required, that you contact the authors of the
Document well before redistributing any large number of copies, to
give them a chance to provide you with an updated version of the
Document.

4. MODIFICATIONS
You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

A. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.

B. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.

C. State on the Title page the name of the publisher of the Modified Version, as the publisher.

D. Preserve all the copyright notices of the Document.

E. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.

F. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.

G. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.

H. Include an unaltered copy of this License.

I. Preserve the section Entitled "History", Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled "History" in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

J. Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the "History" section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.

K. For any section Entitled "Acknowledgements" or "Dedications", Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.

L. Preserve all the Invariant Sections of the Document,
unaltered in their text and in their titles. Section numbers
or the equivalent are not considered part of the section titles.
M. Delete any section Entitled "Endorsements". Such a section
may not be included in the Modified Version.
N. Do not retile any existing section to be Entitled "Endorsements"
or to conflict in title with any Invariant Section.
O. Preserve any Warranty Disclaimers.

If the Modified Version includes new front-matter sections or
appendices that qualify as Secondary Sections and contain no material
copied from the Document, you may at your option designate some or all
of these sections as invariant. To do this, add their titles to the
list of Invariant Sections in the Modified Version's license notice.
These titles must be distinct from any other section titles.

You may add a section Entitled "Endorsements", provided it contains
nothing but endorsements of your Modified Version by various
parties—for example, statements of peer review or that the text has
been approved by an organization as the authoritative definition of a
standard.

You may add a passage of up to five words as a Front-Cover Text, and a
passage of up to 25 words as a Back-Cover Text, to the end of the list
of Cover Texts in the Modified Version. Only one passage of
Front-Cover Text and one of Back-Cover Text may be added by (or
through arrangements made by) any one entity. If the Document already
includes a cover text for the same cover, previously added by you or
by arrangement made by the same entity you are acting on behalf of,
you may not add another; but you may replace the old one, on explicit
permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License
give permission to use their names for publicity for or to assert or
imply endorsement of any Modified Version.

5. COMBINING DOCUMENTS

You may combine the Document with other documents released under this
License, under the terms defined in section 4 above for modified
versions, provided that you include in the combination all of the
Invariant Sections of all of the original documents, unmodified, and
list them all as Invariant Sections of your combined work in its
license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and
multiple identical Invariant Sections may be replaced with a single
copy. If there are multiple Invariant Sections with the same name but
different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled "History" in the various original documents, forming one section Entitled "History"; likewise combine any sections Entitled "Acknowledgements", and any sections Entitled "Dedications". You must delete all sections Entitled "Endorsements".

6. COLLECTIONS OF DOCUMENTS

You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

7. AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an "aggregate" if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.
8. TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.

If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

9. TERMINATION

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.
10. FUTURE REVISIONS OF THIS LICENSE

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See https://www.gnu.org/licenses/.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy’s public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

11. RELICENSING

"Massive Multiauthor Collaboration Site" (or "MMC Site") means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A "Massive Multiauthor Collaboration" (or "MMC") contained in the site means any set of copyrightable works thus published on the MMC site.

"CC-BY-SA" means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

"Incorporate" means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is "eligible for relicensing" if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site
under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

Copyright (c) YEAR YOUR NAME.
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled “GNU Free Documentation License”.

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the "with...Texts." line with this:

with the Invariant Sections being LIST THEIR TITLES, with the Front-Cover Texts being LIST, and with the Back-Cover Texts being LIST.

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

GNU LESSER GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

This version of the GNU Lesser General Public License incorporates the terms and conditions of version 3 of the GNU General Public License, supplemented by the additional permissions listed below.

0. Additional Definitions.

As used herein, "this License" refers to version 3 of the GNU Lesser General Public License, and the "GNU GPL" refers to version 3 of the GNU
General Public License.

"The Library" refers to a covered work governed by this License, other than an Application or a Combined Work as defined below.

An "Application" is any work that makes use of an interface provided by the Library, but which is not otherwise based on the Library. Defining a subclass of a class defined by the Library is deemed a mode of using an interface provided by the Library.

A "Combined Work" is a work produced by combining or linking an Application with the Library. The particular version of the Library with which the Combined Work was made is also called the "Linked Version".

The "Minimal Corresponding Source" for a Combined Work means the Corresponding Source for the Combined Work, excluding any source code for portions of the Combined Work that, considered in isolation, are based on the Application, and not on the Linked Version.

The "Corresponding Application Code" for a Combined Work means the object code and/or source code for the Application, including any data and utility programs needed for reproducing the Combined Work from the Application, but excluding the System Libraries of the Combined Work.

1. Exception to Section 3 of the GNU GPL.

You may convey a covered work under sections 3 and 4 of this License without being bound by section 3 of the GNU GPL.

2. Conveying Modified Versions.

If you modify a copy of the Library, and, in your modifications, a facility refers to a function or data to be supplied by an Application that uses the facility (other than as an argument passed when the facility is invoked), then you may convey a copy of the modified version:

a) under this License, provided that you make a good faith effort to ensure that, in the event an Application does not supply the function or data, the facility still operates, and performs whatever part of its purpose remains meaningful, or

b) under the GNU GPL, with none of the additional permissions of this License applicable to that copy.

The object code form of an Application may incorporate material from a header file that is part of the Library. You may convey such object code under terms of your choice, provided that, if the incorporated material is not limited to numerical parameters, data structure layouts and accessors, or small macros, inline functions and templates (ten or fewer lines in length), you do both of the following:

a) Give prominent notice with each copy of the object code that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the object code with a copy of the GNU GPL and this license document.


You may convey a Combined Work under terms of your choice that, taken together, effectively do not restrict modification of the portions of the Library contained in the Combined Work and reverse engineering for debugging such modifications, if you also do each of the following:

a) Give prominent notice with each copy of the Combined Work that the Library is used in it and that the Library and its use are covered by this License.

b) Accompany the Combined Work with a copy of the GNU GPL and this license document.

c) For a Combined Work that displays copyright notices during execution, include the copyright notice for the Library among these notices, as well as a reference directing the user to the copies of the GNU GPL and this license document.

d) Do one of the following:

0) Convey the Minimal Corresponding Source under the terms of this License, and the Corresponding Application Code in a form suitable for, and under terms that permit, the user to recombine or relink the Application with a modified version of the Linked Version to produce a modified Combined Work, in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.

1) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (a) uses at runtime a copy of the Library already present on the user's computer system, and (b) will operate properly with a modified version
of the Library that is interface-compatible with the Linked Version.

e) Provide Installation Information, but only if you would otherwise be required to provide such information under section 6 of the GNU GPL, and only to the extent that such information is necessary to install and execute a modified version of the Combined Work produced by recombining or relinking the Application with a modified version of the Linked Version. (If you use option 4d0, the Installation Information must accompany the Minimal Corresponding Source and Corresponding Application Code. If you use option 4d1, you must provide the Installation Information in the manner specified by section 6 of the GNU GPL for conveying Corresponding Source.)


You may place library facilities that are a work based on the Library side by side in a single library together with other library facilities that are not Applications and are not covered by this License, and convey such a combined library under terms of your choice, if you do both of the following:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities, conveyed under the terms of this License.

b) Give prominent notice with the combined library that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

6. Revised Versions of the GNU Lesser General Public License.

The Free Software Foundation may publish revised and/or new versions of the GNU Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library as you received it specifies that a certain numbered version of the GNU Lesser General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that published version or of any later version published by the Free Software Foundation. If the Library as you received it does not specify a version number of the GNU Lesser General Public License, you may choose any version of the GNU Lesser General Public License ever published by the Free Software Foundation.
If the Library as you received it specifies that a proxy can decide whether future versions of the GNU Lesser General Public License shall apply, that proxy's public statement of acceptance of any version is permanent authorization for you to choose that version for the Library.

1.93 libtommath 0.42.0

1.93.1 Available under license:
LibTomMath is hereby released into the Public Domain.

-- Tom St Denis

1.94 libnl3 3.5.0

1.94.1 Available under license:

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with
the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.
The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

   c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.
This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.
6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the
Library” must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

   a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

   b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest
possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble
The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program—to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those
products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.

To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible
feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.
2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.

3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any
You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an "aggregate" if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accordance with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or at cost), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.
A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.
"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or

c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered "further restrictions" within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains
a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However,
nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation (including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to
make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting
any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.

14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different
permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary.
For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

1.95 zlib 1.2.5
1.95.1 Available under license:

/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.5, April 19th, 2010

Copyright (C) 1995-2010 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly   Mark Adler
jloup@gzip.org     madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files http://www.ietf.org/rfc/rfc1950.txt (zlib format), rfc1951.txt (deflate format) and rfc1952.txt (gzip format).
*/

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT
SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE
FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE,
ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER
DEALINGS IN THE SOFTWARE.

1.96 gobject-introspection 1.60.2

1.96.1 Available under license:

GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the library GPL. It is
numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some
specially designated Free Software Foundation software, and to any
other libraries whose authors decide to use it. You can use it for
your libraries, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if
you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don’t assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while
preserving your freedom as a user of such programs to change the free
libraries that are incorporated in them. (We have not seen how to achieve
this as regards changes in header files, but we have achieved it as regards
changes in the actual functions of the Library.) The hope is that this
will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and
modification follow. Pay close attention to the difference between a
"work based on the library" and a "work that uses the library". The
former contains code derived from the library, while the latter only
works together with the library.

Note that it is possible for a library to be covered by the ordinary
General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which
contains a notice placed by the copyright holder or other authorized
party saying it may be distributed under the terms of this Library
General Public License (also called "this License"). Each licensee is
addressed as "you".

A "library" means a collection of software functions and/or data
prepared so as to be conveniently linked with application programs
(which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work
which has been distributed under these terms. A "work based on the
Library" means either the Library or any derivative work under
copyright law: that is to say, a work containing the Library or a
portion of it, either verbatim or with modifications and/or translated
straightforwardly into another language. (Hereinafter, translation is
included without limitation in the term "modification").

"Source code" for a work means the preferred form of the work for
making modifications to it. For a library, complete source code means
all the source code for all modules it contains, plus any associated
interface definition files, plus the scripts used to control compilation
and installation of the library.

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running a program using the Library is not restricted, and output from
such a program is covered only if its contents constitute a work based
on the Library (independent of the use of the Library in a tool for
writing it). Whether that is true depends on what the Library does
and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based
Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and
therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the
user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

   a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

   b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE
LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>  Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.

You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Software Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307 USA.

Also add information on how to contact you by electronic and paper mail.
You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their
We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License.
along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.
3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.
8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
Programs), even if such holder or other party has been advised of the possibility of such damages.

End of Terms and Conditions

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.
You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

gobject-introspection has two licenses; one for the typelib library, and one for the tools.

* The typelib libraries (girepository/) are licensed under the LGPLv2+.
  See the file COPYING.LGPL.

* The remaining code is GPLv2+ compatible (see the file COPYING.GPL) and consists of a mix of GPLv2+, LGPLv2+ and MIT. See the license headers in each file for details.

In general where applicable files should have headers denoting their license status; if they do not, please file a bug at https://gitlab.gnome.org/GNOME/gobject-introspection/issues.

1.97 openssh 7.9-p1

1.97.1 Available under license:

This file is part of the OpenSSH software.

The licences which components of this software fall under are as follows. First, we will summarize and say that all components are under a BSD licence, or a licence more free than that.

OpenSSH contains no GPL code.

1)
   * Copyright (c) 1995 Tatu Ylonen <ylo@cs.hut.fi>, Espoo, Finland
   * All rights reserved
   *
   * As far as I am concerned, the code I have written for this software
   * can be used freely for any purpose. Any derived versions of this
* software must be clearly marked as such, and if the derived work is
* incompatible with the protocol description in the RFC file, it must be
* called by a name other than "ssh" or "Secure Shell".

[Tatu continues]
* However, I am not implying to give any licenses to any patents or
* copyrights held by third parties, and the software includes parts that
* are not under my direct control. As far as I know, all included
* source code is used in accordance with the relevant license agreements
* and can be used freely for any purpose (the GNU license being the most
* restrictive); see below for details.

[However, none of that term is relevant at this point in time. All of
these restrictively licenced software components which he talks about
have been removed from OpenSSH, i.e.,

- RSA is no longer included, found in the OpenSSL library
- IDEA is no longer included, its use is deprecated
- DES is now external, in the OpenSSL library
- GMP is no longer used, and instead we call BN code from OpenSSL
- Zlib is now external, in a library
- The make-ssh-known-hosts script is no longer included
- TSS has been removed
- MD5 is now external, in the OpenSSL library
- RC4 support has been replaced with ARC4 support from OpenSSL
- Blowfish is now external, in the OpenSSL library

[The licence continues]

Note that any information and cryptographic algorithms used in this
software are publicly available on the Internet and at any major
bookstore, scientific library, and patent office worldwide. More
information can be found e.g. at "http://www.cs.hut.fi/crypto".

The legal status of this program is some combination of all these
permissions and restrictions. Use only at your own responsibility.
You will be responsible for any legal consequences yourself; I am not
making any claims whether possessing or using this is legal or not in
your country, and I am not taking any responsibility on your behalf.

NO WARRANTY

BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
3) ssh-keyscan was contributed by David Mazieres under a BSD-style license.

* Copyright 1995, 1996 by David Mazieres <dm@lcs.mit.edu>.
  *
  * Modification and redistribution in source and binary forms is
  * permitted provided that due credit is given to the author and the
  * OpenBSD project by leaving this copyright notice intact.

4) The Rijndael implementation by Vincent Rijmen, Antoon Bosselaers and Paulo Barreto is in the public domain and distributed with the following license:

* @version 3.0 (December 2000)
  *
  * Optimised ANSI C code for the Rijndael cipher (now AES)
  *
  * @author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
  * @author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
  * @author Paulo Barreto <paulo.barreto@terra.com.br>
  *
  * This code is hereby placed in the public domain.
  *
  * THIS SOFTWARE IS PROVIDED BY THE AUTHORS "AS IS" AND ANY EXPRESS
  * OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
  * WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
  * ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE
  * LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
  * CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
  * SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
  * BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
* WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
* OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
* EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

5) One component of the ssh source code is under a 3-clause BSD license,
held by the University of California, since we pulled these parts from
original Berkeley code.

* The Regents of the University of California. All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
* notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
* notice, this list of conditions and the following disclaimer in the
* documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
* may be used to endorse or promote products derived from this software
* without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS" AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

6) Remaining components of the software are provided under a standard
2-term BSD licence with the following names as copyright holders:

Markus Friedl
Theo de Raadt
Niels Provos
Dug Song
Aaron Campbell
Damien Miller
Kevin Steves
Daniel Kouril
Wesley Griffin
Per Allansson
Nils Nordman
Simon Wilkinson

Portable OpenSSH additionally includes code from the following copyright holders, also under the 2-term BSD license:

Ben Lindstrom
Tim Rice
Andre Lucas
Chris Adams
Corinna Vinschen
Cray Inc.
Denis Parker
Gert Doering
Jakob Schlyter
Jason Downs
Juha Yrjl
Michael Stone
Networks Associates Technology, Inc.
Solar Designer
Todd C. Miller
Wayne Schroeder
William Jones
Darren Tucker
Sun Microsystems
The SCO Group
Daniel Walsh
Red Hat, Inc
Simon Vallet / Genoscope

* Redistribution and use in source and binary forms, with or without
  modification, are permitted provided that the following conditions
  are met:
* 1. Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
  notice, this list of conditions and the following disclaimer in the
  documentation and/or other materials provided with the distribution.
* THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
  IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
  OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
  IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
  INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
  NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
  DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

8) Portable OpenSSH contains the following additional licenses:

a) md5crypt.c, md5crypt.h

"THE BEER-WARE LICENSE" (Revision 42):
<phk@login.dknet.dk> wrote this file. As long as you retain this
notice you can do whatever you want with this stuff. If we meet
some day, and you think this stuff is worth it, you can buy me a
beer in return. Poul-Henning Kamp

b) snprintf replacement

Copyright Patrick Powell 1995
This code is based on code written by Patrick Powell
(phpowell@astart.com) It may be used for any purpose as long as this
notice remains intact on all source code distributions

c) Compatibility code (openbsd-compat)

Apart from the previously mentioned licenses, various pieces of code in the openbsd-compat/ subdirectory are licensed as follows:

Some code is licensed under a 3-term BSD license, to the following copyright holders:

Todd C. Miller
Theo de Raadt
Damien Miller
Eric P. Allman
The Regents of the University of California
Constantin S. Svintsoff

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS" AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

Some code is licensed under an ISC-style license, to the following
copyright holders:

Internet Software Consortium.
Todd C. Miller
Reyk Floeter
Chad Mynhier

* Permission to use, copy, modify, and distribute this software for any
* purpose with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
* *THE SOFTWARE IS PROVIDED "AS IS" AND TODD C. MILLER DISCLAIMS ALL
* WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL TODD C. MILLER BE LIABLE
* FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
* WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION
* OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION. ARISING OUT OF OR IN
* CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Some code is licensed under a MIT-style license to the following
copyright holders:

Free Software Foundation, Inc.

* Permission is hereby granted, free of charge, to any person obtaining a *
* copy of this software and associated documentation files (the *
* "Software"), to deal in the Software without restriction, including *
* without limitation the rights to use, copy, modify, merge, publish, *
* distribute, distribute with modifications, sublicense, and/or sell *
* copies of the Software, and to permit persons to whom the Software is *
* furnished to do so, subject to the following conditions: *
* *
* The above copyright notice and this permission notice shall be included *
* in all copies or substantial portions of the Software. *
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS *
* OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF         *
* MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. *
* IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, *
* DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR *
* OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR *
* THE USE OR OTHER DEALINGS IN THE SOFTWARE.                              *
*                                                                       *
* Except as contained in this notice, the name(s) of the above copyright  *
* holders shall not be used in advertising or otherwise to promote the   *
* sale, use or other dealings in this Software without prior written     *
* authorization.                                                        *
**************************************************************************/

-----
$OpenBSD: LICENCE,v 1.20 2017/04/30 23:26:16 djm Exp$

1.98 busybox 1.31.1-r9

1.98.1 Available under license:

bzip2 applet in busybox is based on lightly-modified source
of bzip2 version 1.0.4. bzip2 source is distributed
under the following conditions (copied verbatim from LICENSE file)

===========================================================================

This program, "bzip2", the associated library "libbzip2", and all
documentation, are copyright (C) 1996-2006 Julian R Seward. All
rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
notice, this list of conditions and the following disclaimer.

2. The origin of this software must not be misrepresented; you must
not claim that you wrote the original software. If you use this
software in a product, an acknowledgment in the product
documentation would be appreciated but is not required.

3. Altered source versions must be plainly marked as such, and must
not be misrepresented as being the original software.

4. The name of the author may not be used to endorse or promote
products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Julian Seward, Cambridge, UK.
jseward@bzip.org
bzip2/libbzip2 version 1.0.4 of 20 December 2006
--- A note on GPL versions

BusyBox is distributed under version 2 of the General Public License (included in its entirety, below). Version 2 is the only version of this license which this version of BusyBox (or modified versions derived from this one) may be distributed under.

--------------------------------------------------------------------------------

"GNU GENERAL PUBLIC LICENSE
Version 2, June 1991"

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".
Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.
It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA
Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

1.99 libmicrohttpd 0.9.66
1.99.1 Available under license:
@c The GNU Lesser General Public License.
@center Version 2.1, February 1999

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.
@display
Copyright @copyright{} 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]
@end display

@subheading Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software---to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software---typically libraries---of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original
author's reputation will not be affected by problems that might be
introduced by others.

Finally, software patents pose a constant threat to the existence of
any free program. We wish to make sure that a company cannot
effectively restrict the users of a free program by obtaining a
restrictive license from a patent holder. Therefore, we insist that
any patent license obtained for a version of the library must be
consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the
ordinary GNU General Public License. This license, the GNU Lesser
General Public License, applies to certain designated libraries, and
is quite different from the ordinary General Public License. We use
this license for certain libraries in order to permit linking those
libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a
combined work, a derivative of the original library. The ordinary
General Public License therefore permits such linking only if the
entire combination fits its criteria of freedom. The Lesser General
Public License permits more lax criteria for linking other code with
the library.

We call this license the @dfn{Lesser} General Public License because it
does @emph{Less} to protect the user's freedom than the ordinary General
Public License. It also provides other free software developers Less
of an advantage over competing non-free programs. These disadvantages
are the reason we use the ordinary General Public License for many
libraries. However, the Lesser license provides advantages in certain
special circumstances.

For example, on rare occasions, there may be a special need to
encourage the widest possible use of a certain library, so that it becomes
a de-facto standard. To achieve this, non-free programs must be
allowed to use the library. A more frequent case is that a free
library does the same job as widely used non-free libraries. In this
case, there is little to gain by limiting the free library to free
software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free
programs enables a greater number of people to use a large body of
free software. For example, permission to use the GNU C Library in
non-free programs enables many more people to use the whole GNU
operating system, as well as its variant, the GNU/Linux operating
system.
Although the Lesser General Public License is less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

@subheading TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@enumerate 0
@item
This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

@item
You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

@item
You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

@enumerate
@item
The modified work must itself be a software library.

@item
You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

@item
You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

@item
If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

@end enumerate

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

@item
You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

@item
You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to
distribute the source code, even though third parties are not compelled to copy the source along with the object code.

@item
A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

@item
As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference
directing the user to the copy of this License. Also, you must do one of these things:

@enumerate
@item
Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

@item
Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

@item
Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

@item
If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

@item
Verify that the user has already received a copy of these materials or that you have already sent this user a copy.
@end enumerate

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

1. Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
2. Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.
Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if written in the body of this License.

@item
The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

@item
If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

@center @b{NO WARRANTY}

@item
BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

@item
IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A
FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF
SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH
DAMAGES.
@end enumerate

@end subheading

@end page

@end subheading END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest
possible use to the public, we recommend making it free software that
everyone can redistribute and change. You can do so by permitting
redistribution under these terms (or, alternatively, under the terms of the
ordinary General Public License).

To apply these terms, attach the following notices to the library. It is
 safest to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least the
"copyright" line and a pointer to where the full notice is found.

@example
\begin{verbatim}
\var{one line to give the library's name and an idea of what it does.}
Copyright (C) \var{year}  \var{name of author}

This library is free software; you can redistribute it and/or modify it
under the terms of the GNU Lesser General Public License as published by
the Free Software Foundation; either version 2.1 of the License, or (at
your option) any later version.

This library is distributed in the hope that it will be useful, but
WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.  See the GNU
Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301,
USA.
@endverbatim
@end example

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a ``copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

@example
@endverbatim
@end example
Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

@var{signature of Ty Coon}, 1 April 1990
Ty Coon, President of Vice
@end smallexample

That's all there is to it!
@c The GNU Free Documentation License.
@center Version 1.3, 3 November 2008

@c This file is intended to be included within another document,
@c hence no sectioning command or @node.

@display
@uref{http://fsf.org/}
@end display

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.
@end display

@enumerate 0
@item
PREAMBLE

The purpose of this License is to make a manual, textbook, or other functional and useful document @dfn{free} in the sense of freedom: to assure everyone the effective freedom to copy and redistribute it, with or without modifying it, either commercially or noncommercially. Secondarily, this License preserves for the author and publisher a way to get credit for their work, while not being considered responsible for modifications made by others.

This License is a kind of ``copyleft'', which means that derivative works of the document must themselves be free in the same sense. It complements the GNU General Public License, which is a copyleft license designed for free software.

We have designed this License in order to use it for manuals for free software, because free software needs free documentation: a free program should come with manuals providing the same freedoms that the software does. But this License is not limited to software manuals; it can be used for any textual work, regardless of subject matter or whether it is published as a printed book. We recommend this License principally for works whose purpose is instruction or reference.

@item
APPLICABILITY AND DEFINITIONS

This License applies to any manual or other work, in any medium, that contains a notice placed by the copyright holder saying it can be distributed under the terms of this License. Such a notice grants a world-wide, royalty-free license, unlimited in duration, to use that work under the conditions stated herein. The `Document`, below, refers to any such manual or work. Any member of the public is a licensee, and is addressed as ``you''. You accept the license if you copy, modify or distribute the work in a way requiring permission under copyright law.

A ``Modified Version'' of the Document means any work containing the Document or a portion of it, either copied verbatim, or with modifications and/or translated into another language.

A ``Secondary Section'' is a named appendix or a front-matter section of the Document that deals exclusively with the relationship of the publishers or authors of the Document to the Document's overall subject (or to related matters) and contains nothing that could fall directly within that overall subject. (Thus, if the Document is in part a textbook of mathematics, a Secondary Section may not explain any mathematics.) The relationship could be a matter of historical connection with the subject or with related matters, or of legal, commercial, philosophical, ethical or political position regarding them.

The ``Invariant Sections'' are certain Secondary Sections whose titles are designated, as being those of Invariant Sections, in the notice that says that the Document is released under this License. If a section does not fit the above definition of Secondary then it is not allowed to be designated as Invariant. The Document may contain zero Invariant Sections. If the Document does not identify any Invariant Sections then there are none.

The ``Cover Texts'' are certain short passages of text that are listed, as Front-Cover Texts or Back-Cover Texts, in the notice that says that the Document is released under this License. A Front-Cover Text may be at most 5 words, and a Back-Cover Text may be at most 25 words.

A ``Transparent'' copy of the Document means a machine-readable copy, represented in a format whose specification is available to the general public, that is suitable for revising the document straightforwardly with generic text editors or (for images composed of pixels) generic paint programs or (for drawings) some widely available drawing editor, and that is suitable for input to text formatters or for automatic translation to a variety of formats suitable for input to text formatters. A copy made in an otherwise Transparent file
format whose markup, or absence of markup, has been arranged to thwart or discourage subsequent modification by readers is not Transparent. An image format is not Transparent if used for any substantial amount of text. A copy that is not "Transparent" is called "Opaque".

Examples of suitable formats for Transparent copies include plain \textsc{ascii} without markup, Texinfo input format, La\TeX{} input format, @acronym{SGML} or @acronym{XML} using a publicly available @acronym{DTD}, and standard-conforming simple @acronym{HTML}, PostScript or @acronym{PDF} designed for human modification. Examples of transparent image formats include @acronym{PNG}, @acronym{XCF} and @acronym{JPG}. Opaque formats include proprietary formats that can be read and edited only by proprietary word processors, @acronym{SGML} or @acronym{XML} for which the @acronym{DTD} and/or processing tools are not generally available, and the machine-generated @acronym{HTML}, PostScript or @acronym{PDF} produced by some word processors for output purposes only.

The "Title Page" means, for a printed book, the title page itself, plus such following pages as are needed to hold, legibly, the material this License requires to appear in the title page. For works in formats which do not have any title page as such, "Title Page" means the text near the most prominent appearance of the work's title, preceding the beginning of the body of the text.

The "publisher" means any person or entity that distributes copies of the Document to the public.

A section "Entitled XYZ" means a named subunit of the Document whose title either is precisely XYZ or contains XYZ in parentheses following text that translates XYZ in another language. (Here XYZ stands for a specific section name mentioned below, such as "Acknowledgements", "Dedications", "Endorsements", or "History".) To "Preserve the Title" of such a section when you modify the Document means that it remains a section "Entitled XYZ" according to this definition.

The Document may include Warranty Disclaimers next to the notice which states that this License applies to the Document. These Warranty Disclaimers are considered to be included by reference in this License, but only as regards disclaiming warranties: any other implication that these Warranty Disclaimers may have is void and has no effect on the meaning of this License.

\item VERBATIM COPYING

You may copy and distribute the Document in any medium, either commercially or noncommercially, provided that this License, the
copyright notices, and the license notice saying this License applies to the Document are reproduced in all copies, and that you add no other conditions whatsoever to those of this License. You may not use technical measures to obstruct or control the reading or further copying of the copies you make or distribute. However, you may accept compensation in exchange for copies. If you distribute a large enough number of copies you must also follow the conditions in section 3.

You may also lend copies, under the same conditions stated above, and you may publicly display copies.

@item

COPYING IN QUANTITY

If you publish printed copies (or copies in media that commonly have printed covers) of the Document, numbering more than 100, and the Document's license notice requires Cover Texts, you must enclose the copies in covers that carry, clearly and legibly, all these Cover Texts: Front-Cover Texts on the front cover, and Back-Cover Texts on the back cover. Both covers must also clearly and legibly identify you as the publisher of these copies. The front cover must present the full title with all words of the title equally prominent and visible. You may add other material on the covers in addition. Copying with changes limited to the covers, as long as they preserve the title of the Document and satisfy these conditions, can be treated as verbatim copying in other respects.

If the required texts for either cover are too voluminous to fit legibly, you should put the first ones listed (as many as fit reasonably) on the actual cover, and continue the rest onto adjacent pages.

If you publish or distribute Opaque copies of the Document numbering more than 100, you must either include a machine-readable Transparent copy along with each Opaque copy, or state in or with each Opaque copy a computer-network location from which the general network-using public has access to download using public-standard network protocols a complete Transparent copy of the Document, free of added material. If you use the latter option, you must take reasonably prudent steps, when you begin distribution of Opaque copies in quantity, to ensure that this Transparent copy will remain thus accessible at the stated location until at least one year after the last time you distribute an Opaque copy (directly or through your agents or retailers) of that edition to the public.

It is requested, but not required, that you contact the authors of the Document well before redistributing any large number of copies, to give them a chance to provide you with an updated version of the Document.
MODIFICATIONS

You may copy and distribute a Modified Version of the Document under the conditions of sections 2 and 3 above, provided that you release the Modified Version under precisely this License, with the Modified Version filling the role of the Document, thus licensing distribution and modification of the Modified Version to whoever possesses a copy of it. In addition, you must do these things in the Modified Version:

1. Use in the Title Page (and on the covers, if any) a title distinct from that of the Document, and from those of previous versions (which should, if there were any, be listed in the History section of the Document). You may use the same title as a previous version if the original publisher of that version gives permission.

2. List on the Title Page, as authors, one or more persons or entities responsible for authorship of the modifications in the Modified Version, together with at least five of the principal authors of the Document (all of its principal authors, if it has fewer than five), unless they release you from this requirement.

3. State on the Title page the name of the publisher of the Modified Version, as the publisher.

4. Preserve all the copyright notices of the Document.

5. Add an appropriate copyright notice for your modifications adjacent to the other copyright notices.

6. Include, immediately after the copyright notices, a license notice giving the public permission to use the Modified Version under the terms of this License, in the form shown in the Addendum below.

7. Preserve in that license notice the full lists of Invariant Sections and required Cover Texts given in the Document's license notice.

8. Include an unaltered copy of this License.
@item
Preserve the section Entitled ``History'', Preserve its Title, and add to it an item stating at least the title, year, new authors, and publisher of the Modified Version as given on the Title Page. If there is no section Entitled ``History'' in the Document, create one stating the title, year, authors, and publisher of the Document as given on its Title Page, then add an item describing the Modified Version as stated in the previous sentence.

@item
Preserve the network location, if any, given in the Document for public access to a Transparent copy of the Document, and likewise the network locations given in the Document for previous versions it was based on. These may be placed in the ``History'' section. You may omit a network location for a work that was published at least four years before the Document itself, or if the original publisher of the version it refers to gives permission.

@item
For any section Entitled ``Acknowledgements'' or ``Dedications'', Preserve the Title of the section, and preserve in the section all the substance and tone of each of the contributor acknowledgements and/or dedications given therein.

@item
Preserve all the Invariant Sections of the Document, unaltered in their text and in their titles. Section numbers or the equivalent are not considered part of the section titles.

@item
Delete any section Entitled ``Endorsements''. Such a section may not be included in the Modified Version.

@item
Do not retitle any existing section to be Entitled ``Endorsements'' or to conflict in title with any Invariant Section.

@item
Preserve any Warranty Disclaimers.
@end enumerate

If the Modified Version includes new front-matter sections or appendices that qualify as Secondary Sections and contain no material copied from the Document, you may at your option designate some or all of these sections as invariant. To do this, add their titles to the list of Invariant Sections in the Modified Version's license notice. These titles must be distinct from any other section titles.
You may add a section Entitled “Endorsements”, provided it contains nothing but endorsements of your Modified Version by various parties—for example, statements of peer review or that the text has been approved by an organization as the authoritative definition of a standard.

You may add a passage of up to five words as a Front-Cover Text, and a passage of up to 25 words as a Back-Cover Text, to the end of the list of Cover Texts in the Modified Version. Only one passage of Front-Cover Text and one of Back-Cover Text may be added by (or through arrangements made by) any one entity. If the Document already includes a cover text for the same cover, previously added by you or by arrangement made by the same entity you are acting on behalf of, you may not add another; but you may replace the old one, on explicit permission from the previous publisher that added the old one.

The author(s) and publisher(s) of the Document do not by this License give permission to use their names for publicity for or to assert or imply endorsement of any Modified Version.

@item

COMBINING DOCUMENTS

You may combine the Document with other documents released under this License, under the terms defined in section 4 above for modified versions, provided that you include in the combination all of the Invariant Sections of all of the original documents, unmodified, and list them all as Invariant Sections of your combined work in its license notice, and that you preserve all their Warranty Disclaimers.

The combined work need only contain one copy of this License, and multiple identical Invariant Sections may be replaced with a single copy. If there are multiple Invariant Sections with the same name but different contents, make the title of each such section unique by adding at the end of it, in parentheses, the name of the original author or publisher of that section if known, or else a unique number. Make the same adjustment to the section titles in the list of Invariant Sections in the license notice of the combined work.

In the combination, you must combine any sections Entitled “History” in the various original documents, forming one section Entitled “History”; likewise combine any sections Entitled “Acknowledgements”, and any sections Entitled “Dedications”. You must delete all sections Entitled “Endorsements.”

@item

COLLECTIONS OF DOCUMENTS
You may make a collection consisting of the Document and other documents released under this License, and replace the individual copies of this License in the various documents with a single copy that is included in the collection, provided that you follow the rules of this License for verbatim copying of each of the documents in all other respects.

You may extract a single document from such a collection, and distribute it individually under this License, provided you insert a copy of this License into the extracted document, and follow this License in all other respects regarding verbatim copying of that document.

@item
AGGREGATION WITH INDEPENDENT WORKS

A compilation of the Document or its derivatives with other separate and independent documents or works, in or on a volume of a storage or distribution medium, is called an “aggregate” if the copyright resulting from the compilation is not used to limit the legal rights of the compilation's users beyond what the individual works permit. When the Document is included in an aggregate, this License does not apply to the other works in the aggregate which are not themselves derivative works of the Document.

If the Cover Text requirement of section 3 is applicable to these copies of the Document, then if the Document is less than one half of the entire aggregate, the Document's Cover Texts may be placed on covers that bracket the Document within the aggregate, or the electronic equivalent of covers if the Document is in electronic form. Otherwise they must appear on printed covers that bracket the whole aggregate.

@item
TRANSLATION

Translation is considered a kind of modification, so you may distribute translations of the Document under the terms of section 4. Replacing Invariant Sections with translations requires special permission from their copyright holders, but you may include translations of some or all Invariant Sections in addition to the original versions of these Invariant Sections. You may include a translation of this License, and all the license notices in the Document, and any Warranty Disclaimers, provided that you also include the original English version of this License and the original versions of those notices and disclaimers. In case of a disagreement between the translation and the original version of this License or a notice or disclaimer, the original version will prevail.
If a section in the Document is Entitled "Acknowledgements", "Dedications", or "History", the requirement (section 4) to Preserve its Title (section 1) will typically require changing the actual title.

@item

**TERMINATION**

You may not copy, modify, sublicense, or distribute the Document except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, or distribute it is void, and will automatically terminate your rights under this License.

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, receipt of a copy of some or all of the same material does not give you any rights to use it.

@item

**FUTURE REVISIONS OF THIS LICENSE**

The Free Software Foundation may publish new, revised versions of the GNU Free Documentation License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns. See @uref{http://www.gnu.org/copyleft/}.

Each version of the License is given a distinguishing version number. If the Document specifies that a particular numbered version of this License "or any later version" applies to it, you have the option of following the terms and conditions either of that specified version or of any later version that has been published (not as a draft) by the Free Software Foundation. If the Document does not specify a version
number of this License, you may choose any version ever published (not as a draft) by the Free Software Foundation. If the Document specifies that a proxy can decide which future versions of this License can be used, that proxy’s public statement of acceptance of a version permanently authorizes you to choose that version for the Document.

@item RELICENSING

``Massive Multiauthor Collaboration Site`` (or ``MMC Site``) means any World Wide Web server that publishes copyrightable works and also provides prominent facilities for anybody to edit those works. A public wiki that anybody can edit is an example of such a server. A ``Massive Multiauthor Collaboration`` (or ``MMC``) contained in the site means any set of copyrightable works thus published on the MMC site.

``CC-BY-SA`` means the Creative Commons Attribution-Share Alike 3.0 license published by Creative Commons Corporation, a not-for-profit corporation with a principal place of business in San Francisco, California, as well as future copyleft versions of that license published by that same organization.

``Incorporate`` means to publish or republish a Document, in whole or in part, as part of another Document.

An MMC is `eligible for relicensing` if it is licensed under this License, and if all works that were first published under this License somewhere other than this MMC, and subsequently incorporated in whole or in part into the MMC, (1) had no cover texts or invariant sections, and (2) were thus incorporated prior to November 1, 2008.

The operator of an MMC Site may republish an MMC contained in the site under CC-BY-SA on the same site at any time before August 1, 2009, provided the MMC is eligible for relicensing.

@end enumerate

@page
@heading ADDENDUM: How to use this License for your documents

To use this License in a document you have written, include a copy of the License in the document and put the following copyright and license notices just after the title page:

@smallexample
@group
Copyright (C) @var{year} @var{your name}.
Permission is granted to copy, distribute and/or modify this document under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, no Front-Cover Texts, and no Back-Cover Texts. A copy of the license is included in the section entitled ``GNU Free Documentation License''.
@end group
@end smallexample

If you have Invariant Sections, Front-Cover Texts and Back-Cover Texts, replace the ``with@dots{}Texts.'' line with this:

@smallexample
@group
with the Invariant Sections being @var{list their titles}, with the Front-Cover Texts being @var{list}, and with the Back-Cover Texts being @var{list}.
@end group
@end smallexample

If you have Invariant Sections without Cover Texts, or some other combination of the three, merge those two alternatives to suit the situation.

If your document contains nontrivial examples of program code, we recommend releasing these examples in parallel under your choice of free software license, such as the GNU General Public License, to permit their use in free software.

@c Local Variables:
@c ispell-local-pdict: "ispell-dict"
@c End:
Some of this code is DUAL-LICENSED. If you use MHD without HTTPS/SSL support, you are free to choose between the LGPL and the eCos License (http://ecos.sourceforge.org/license-overview.html). If you compile MHD with HTTPS support, you must obey the terms of the GNU LGPL.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA  02110-1301  USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence the version number 2.1.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.
Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is
linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact...
all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.
Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License. Any
attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your
rights under this License. However, parties who have received copies,
or rights, from you under this License will not have their licenses
terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Library or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library
subject to these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
this License.

11. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any
particular circumstance, the balance of the section is intended to apply,
and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Library under this License may add
an explicit geographical distribution limitation excluding those countries,
so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if
written in the body of this License.

13. The Free Software Foundation may publish revised and/or new
versions of the Lesser General Public License from time to time.
Such new versions will be similar in spirit to the present version,
but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library
specifies a version number of this License which applies to it and
"any later version", you have the option of following the terms and
conditions either of that version or of any later version published by
the Free Software Foundation. If the Library does not specify a
license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free
programs whose distribution conditions are incompatible with these,
write to the author to ask for permission. For software which is
copyrighted by the Free Software Foundation, write to the Free
Software Foundation; we sometimes make exceptions for this. Our
decision will be guided by the two goals of preserving the free status
of all derivatives of our free software and of promoting the sharing
and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR
OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY
KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

1.100 glib 2.60.7

1.100.1 Available under license:

This work may be reproduced and distributed in whole or in part, in any medium, physical or electronic, so as long as this copyright notice remains intact and unchanged on all copies. Commercial redistribution is permitted and encouraged, but you may not redistribute, in whole or in part, under terms more restrictive than those under which you received it. If you redistribute a modified or translated version of this work, you must also make the source code to the modified or translated version available in electronic form without charge. However, mere aggregation as part of a larger work shall not count as a modification for this purpose.

All code examples in this work are placed into the public domain, and may be used, modified and redistributed without restriction.

BECAUSE THIS WORK IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE WORK, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE WORK "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SHOULD THE WORK PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY REPAIR OR CORRECTION.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE WORK AS PERMITTED ABOVE, BE LIABLE TO YOU
FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE
WORK, EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

PCRE LICENCE

Please see the file LICENCE in the PCRE distribution for licensing details.

End

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.
For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.
For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)
"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

   You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

   c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

   d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

   (For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a
medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by
this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license
restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by
the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.
This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

1.101 netcat 0.7.1

1.101.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free software—to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION
0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under
these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent
license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.
This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

1.102 libbsd 0.10.0
1.102.1 Available under license:
Format: https://www.debian.org/doc/packaging-manuals/copyright-format/1.0/

Files:
Copyright:
Copyright 2004-2006, 2008-2018 Guillem Jover <guillem@hadrons.org>
License: BSD-3-clause

Files:
man/arc4random.3bsd
man/tree.3bsd

Copyright:
Copyright 1997 Niels Provos <provos@physnet.uni-hamburg.de>
All rights reserved.
License: BSD-4-clause-Niels-Provos
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement:
   This product includes software developed by Niels Provos.
4. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files:
man/getprogname.3bsd

Copyright:
Copyright 2001 Christopher G. Demetriou
All rights reserved.
License: BSD-4-clause-Christopher-G-Demetriou
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. All advertising materials mentioning features or use of this software must display the following acknowledgement:

   This product includes software developed for the NetBSD Project. See http://www.netbsd.org/ for information about NetBSD.

4. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

   THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files:
include/bsd/err.h
include/bsd/stdlib.h
include/bsd/sys/param.h
include/bsd/unistd.h
src/bsd_getopt.c
src/err.c
src/fgetln.c
src/progname.c

Copyright:
Copyright 2005, 2008-2012, 2019 Guillem Jover <guillem@hadrons.org>
Copyright 2005 Hector Garcia Alvarez
Copyright 2005 Aurelien Jarno
Copyright 2006 Robert Millan
Copyright 2018 Facebook, Inc.
License: BSD-3-clause

Files:
include/bsd/netinet/ip_icmp.h
include/bsd/sys/bitstring.h
include/bsd/sys/queue.h
include/bsd/sys/time.h
include/bsd/timeconv.h
include/bsd/vis.h
man/bitstring.3bsd
man/errc.3bsd
man/explicit_bzero.3bsd
man/fgetln.3bsd
man/fgetwln.3bsd
man/fpurge.3bsd
man/funopen.3bsd
man/getbsize.3bsd
man/heapsort.3bsd
man/nlist.3bsd
man/queue.3bsd
man/radixsort.3bsd
man/reallocarray.3bsd
man/reallocf.3bsd
man/setmode.3bsd
man/strmode.3bsd
man/strnstr.3bsd
man/strtoi.3bsd
man/strtof.3bsd
man/unvis.3bsd
man/vis.3bsd
man/wcsxcpy.3bsd
src/getbsize.c
src/heapsort.c
src/merge.c
src/nlist.c
src/radixsort.c
src/setmode.c
src/strmode.c
src/strnstr.c
src/strtof.c
src/strtof.c
src/unvis.c

Copyright:
   The Regents of the University of California. All rights reserved.
Copyright  2001 Mike Barcroft <mike@FreeBSD.org>

Some code is derived from software contributed to Berkeley by
the American National Standards Committee X3, on Information
Processing Systems.

Some code is derived from software contributed to Berkeley by
Peter McIlroy.

Some code is derived from software contributed to Berkeley by
Ronnie Kon at Mindcraft Inc., Kevin Lew and Elmer Yglesias.

Some code is derived from software contributed to Berkeley by
Dave Borman at Cray Research, Inc.
Some code is derived from software contributed to Berkeley by Paul Vixie.

Some code is derived from software contributed to Berkeley by Chris Torek.

Copyright UNIX System Laboratories, Inc.
All or some portions of this file are derived from material licensed to the University of California by American Telephone and Telegraph Co. or Unix System Laboratories, Inc. and are reproduced herein with the permission of UNIX System Laboratories, Inc.
License: BSD-3-clause-Regents

Files:
src/vis.c
Copyright:
Copyright 1989, 1993 The Regents of the University of California. All rights reserved.

Copyright 1999, 2005 The NetBSD Foundation, Inc.
All rights reserved.
License: BSD-3-clause-Regents and BSD-2-clause-NetBSD

Files:
include/bsd/libutil.h
Copyright:
Copyright 1996 Peter Wemm <peter@FreeBSD.org>.
All rights reserved.
Copyright 2002 Networks Associates Technology, Inc.
All rights reserved.
License: BSD-3-clause-author

Files:
man/timeradd.3bsd
Copyright:
Copyright 2009 Jukka Ruohonen <jruohonen@iki.fi>
Copyright 1999 Kelly Yancey <kbyanc@ posi.net>
All rights reserved.
License: BSD-3-clause-John-Birrell
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the author nor the names of any co-contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY JOHN BIRRELL AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files:
man/setproctitle.3bsd
Copyright:
Copyright 1995 Peter Wemm <peter@FreeBSD.org>
All rights reserved.
License: BSD-5-clause-Peter-Wemm
Redistribution and use in source and binary forms, with or without modification, is permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice immediately at the beginning of the file, without modification, this list of conditions, and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. This work was done expressly for inclusion into FreeBSD. Other use is permitted provided this notation is included.
4. Absolutely no warranty of function or purpose is made by the author Peter Wemm.
5. Modifications may be freely made to this file providing the above conditions are met.

Files:
include/bsd/stringlist.h
man/fmtcheck.3bsd
man/humanize_number.3bsd
man/stringlist.3bsd
man/timeval.3bsd
src/fmtcheck.c
src/humanize_number.c
src/stringlist.c
src/strtonum.c
DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Files:
include/bsd/sys/tree.h
man/fparseln.3bsd
src/fparseln.c

Copyright:
Copyright 1997 Christos Zoulas.
All rights reserved.

Copyright 2002 Niels Provos <provos@citi.umich.edu>
All rights reserved.
License: BSD-2-clause-author

Files:
include/bsd/readpassphrase.h
man/readpassphrase.3bsd
man/strlcpy.3bsd
man/strtonum.3bsd
src/arc4random.c
src/arc4random_linux.h
src/arc4random_openbsd.h
src/arc4random_uniform.c
src/arc4random_unix.h
src/arc4random_win.h
src/closefrom.c
src/getentropy_aix.c
src/getentropy_bsd.c
src/getentropy_hpux.c
src/getentropy_hurd.c
src/getentropy_linux.c
src/getentropy_osx.c
src/getentropy_solaris.c
src/getentropy_win.c
src/readpassphrase.c
src/reallocarray.c
src/strfcat.c
src/strlcpy.c

Copyright:
Copyright 2004 Ted Unangst and Todd Miller
All rights reserved.

Copyright 1996 David Mazieres <dm@uun.org>
    Todd C. Miller <Todd.Miller@courtesan.com>
Copyright 2004 Ted Unangst
Copyright 2008 Damien Miller <djm@openbsd.org>
Copyright 2008 Otto Moerbeek <otto@drijf.net>
Copyright 2013 Markus Friedl <markus@openbsd.org>
Copyright 2014 Bob Beck <beck@obtuse.com>
Copyright 2014 Brent Cook <bcook@openbsd.org>
Copyright 2014 Pawel Jakub Dawidek <pjd@FreeBSD.org>
Copyright 2014 Theo de Raadt <deraadt@openbsd.org>
Copyright 2015 Michael Felt <aixtools@gmail.com>
Copyright 2015 Guillem Jover <guillem@hadrons.org>
License: ISC
Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND THE AUTHOR DISCLAIMS ALL WARRANTIES
WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR
ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF
OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Files:
src/inet_net_pton.c
Copyright:
Copyright 1996 by Internet Software Consortium.
License: ISC-Original
Permission to use, copy, modify, and distribute this software for any
purpose with or without fee is hereby granted, provided that the above
copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS" AND INTERNET SOFTWARE CONSORTIUM DISCLAIMS
ALL WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL INTERNET SOFTWARE
CONSORTIUM BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL
DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR
PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS
ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS
SOFTWARE.

Files:
src/setproctitle.c
Copyright:
Copyright 2010 William Ahern
Copyright 2012 Guillem Jover <guillem@hadrons.org>
License: Expat
Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to permit
persons to whom the Software is furnished to do so, subject to the
following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS
OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN
NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM,
DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR
OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE
USE OR OTHER DEALINGS IN THE SOFTWARE.

Files:
include/bsd/md5.h
src/hash/md5.c
Copyright:
None
License: public-domain-Colin-Plumb
This code implements the MD5 message-digest algorithm.
The algorithm is due to Ron Rivest. This code was
written by Colin Plumb in 1993, no copyright is claimed.
This code is in the public domain; do with it what you wish.

Files:
src/explicit_bzero.c
src/chacha_private.h
Copyright:
None
License: public-domain
Public domain.

Files:
man/mdX.3bsd
src/hash/md5hl.c
src/hash/helper.c
Copyright:
None
License: Beerware
"THE BEER-WARE LICENSE" (Revision 42):
<phk@login.dkuug.dk> wrote this file. As long as you retain this notice you
can do whatever you want with this stuff. If we meet some day, and you think this stuff is worth it, you can buy me a beer in return. Poul-Henning Kamp

License: BSD-3-clause-Regents
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

License: BSD-3-clause-author
Redistribution and use in source and binary forms, with or without modification, is permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

License: BSD-3-clause
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR Services; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

License: BSD-2-clause-NetBSD
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE NETBSD FOUNDATION, INC. AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE FOUNDATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR Services; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

License: BSD-2-clause-author
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

License: BSD-2-clause
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
Copyright (c) 2004, Jan Kneschke, incremental
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this
  list of conditions and the following disclaimer.

- Redistributions in binary form must reproduce the above copyright notice,
  this list of conditions and the following disclaimer in the documentation
  and/or other materials provided with the distribution.

- Neither the name of the 'incremental' nor the names of its contributors may
  be used to endorse or promote products derived from this software without
  specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS"
AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS
INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN
CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
THE POSSIBILITY OF SUCH DAMAGE.

1.104 hd-parm 9.58

1.105 expat 2.2.8
1.105.1 Available under license :

Copyright (c) 1998-2000 Thai Open Source Software Center Ltd and Clark Cooper
Copyright (c) 2001-2019 Expat maintainers

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included
in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.
IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT,
TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE
SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

1.106 libtirpc 1.1.4
1.106.1 Available under license :

/*
 * Copyright (c) Copyright (c) Bull S.A. 2005 All Rights Reserved.
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 * 1. Redistributions of source code must retain the above copyright
 * notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright
 * notice, this list of conditions and the following disclaimer in the
 * documentation and/or other materials provided with the distribution.
 * 3. The name of the author may not be used to endorse or promote products
 * derived from this software without specific prior written permission.
 *
 * THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
 * IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
 * OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
 * IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
 * INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
 * NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
 * DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
 * THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
 * (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
 * THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
 */
1.107 alpine-keys 2.1 r2

1.108 csrp 1.0
1.108.1 Available under license:

Copyright (c) 2010, Tom Cocagne
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of the Python Software Foundation nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL TOM COCAGNE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

1.109 libgcrypt 1.8.4
1.109.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software—to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
0. This License applies to any program or other work which contains
a notice placed by the copyright holder saying it may be distributed
under the terms of this General Public License. The "Program", below,
refers to any such program or work, and a "work based on the Program"
means either the Program or any derivative work under copyright law:
that is to say, a work containing the Program or a portion of it,
either verbatim or with modifications and/or translated into another
language. (Hereinafter, translation is included without limitation in
the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not
covered by this License; they are outside its scope. The act of
running the Program is not restricted, and the output from the Program
is covered only if its contents constitute a work based on the
Program (independent of having been made by running the Program).
Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's
source code as you receive it, in any medium, provided that you
conspicuously and appropriately publish on each copy an appropriate
copyright notice and disclaimer of warranty; keep intact all the
notices that refer to this License and to the absence of any warranty;
and give any other recipients of the Program a copy of this License
along with the Program.

You may charge a fee for the physical act of transferring a copy, and
you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion
of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1
above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in
whole or in part contains or is derived from the Program or any
part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively
when run, you must cause it, when started running for such
interactive use in the most ordinary way, to print or display an
announcement including an appropriate copyright notice and a
notice that there is no warranty (or else, saying that you provide
a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you
may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.
This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is
modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating
Although the Lesser General Public License is less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

^L

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.
1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

   c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

   d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

      (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.
However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood
that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

   a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library
facilities. This must be distributed under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License. Any
attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your
rights under this License. However, parties who have received copies,
or rights, from you under this License will not have their licenses
terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Library or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library
subject to these terms and conditions. You may not impose any further
restrictions on the recipients’ exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
this License.

11. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Library at all. For example, if a patent
license would not permit royalty-free redistribution of the Library by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply, and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY
15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANDABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library 'Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

Additional license notices for Libgcrypt.

This file contains the copying permission notices for various files in the Libgcrypt distribution which are not covered by the GNU Lesser General Public License (LGPL) or the GNU General Public License (GPL).

These notices all require that a copy of the notice be included in the accompanying documentation and be distributed with binary distributions of the code, so be sure to include this file along with any binary distributions derived from the GNU C Library.

* BSD_3Clause

For files:
- cipher/sha256-avx-amd64.S
- cipher/sha256-avx2-bmi2-amd64.S
- cipher/sha256-ssse3-amd64.S
- cipher/sha512-avx-amd64.S
- cipher/sha512-avx2-bmi2-amd64.S
- cipher/sha512-ssse3-amd64.S

#+begin_quote
Copyright (c) 2012, Intel Corporation

All rights reserved.

Redistribution and use in source and binary forms, with or without
Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the Intel Corporation nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY INTEL CORPORATION "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL INTEL CORPORATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

For files:
- random/jitterentropy-base.c
- random/jitterentropy.h
- random/rndjent.c (plus common Libgcrypt copyright holders)

* Copyright Stephan Mueller <smueller@chronox.de>, 2013

License
======

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, and the entire permission notice in its entirety, including the disclaimer of warranties.

2. Redistributions in binary form must reproduce the above copyright notice, and the entire permission notice in its entirety.
notice, this list of conditions and the following disclaimer in the
documentation and/or other materials provided with the distribution.

3. The name of the author may not be used to endorse or promote
products derived from this software without specific prior
written permission.

ALTERNATIVELY, this product may be distributed under the terms of
the GNU General Public License, in which case the provisions of the GPL are
required INSTEAD OF the above restrictions. (This clause is
necessary due to a potential bad interaction between the GPL and
the restrictions contained in a BSD-style copyright.)

THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ALL OF
WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT
OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE
USE OF THIS SOFTWARE, EVEN IF NOT ADVISED OF THE POSSIBILITY OF SUCH
DAMAGE.

X License

For files:
- install.sh

Copyright (C) 1994 X Consortium

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to
deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or
sell copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNEC-
TION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other deal-
ings in this Software without prior written authorization from the X Consor-
tium.

* Public domain

For files:
- cipher/arcfour-amd64.S

* OCB license 1

For files:
- cipher/cipher-ocb.c

OCB is covered by several patents but may be used freely by most software. See http://web.cs.ucdavis.edu/~rogaway/ocb/license.htm . In particular license 1 is suitable for Libgcrypt: See http://web.cs.ucdavis.edu/~rogaway/ocb/license1.pdf for the full license document; it basically says:

License 1 License for Open-Source Software Implementations of OCB
(Jan 9, 2013)

Under this license, you are authorized to make, use, and distribute open-source software implementations of OCB. This license terminates for you if you sue someone over their open-source software implementation of OCB claiming that you have a patent covering their implementation.

License for Open Source Software Implementations of OCB
January 9, 2013

1 Definitions
1.1 Licensor means Phillip Rogaway.


1.3 Use means any practice of any invention claimed in the Licensed Patents.

1.4 Software Implementation means any practice of any invention claimed in the Licensed Patents that takes the form of software executing on a user-programmable, general-purpose computer or that takes the form of a computer-readable medium storing such software. Software Implementation does not include, for example, application-specific integrated circuits (ASICs), field-programmable gate arrays (FPGAs), embedded systems, or IP cores.

1.5 Open Source Software means software whose source code is published and made available for inspection and use by anyone because either (a) the source code is subject to a license that permits recipients to copy, modify, and distribute the source code without payment of fees or royalties, or (b) the source code is in the public domain, including code released for public use through a CC0 waiver. All licenses certified by the Open Source Initiative at opensource.org as of January 9, 2013 and all Creative Commons licenses identified on the creativecommons.org website as of January 9, 2013, including the Public License Fallback of the CC0 waiver, satisfy these requirements for the purposes of this license.

1.6 Open Source Software Implementation means a Software Implementation in which the software implicating the Licensed Patents is Open Source Software. Open Source Software Implementation does not include any Software Implementation in which the software implicating the Licensed Patents is combined, so as to form a larger program, with software that is not Open Source Software.

2 License Grant

2.1 License. Subject to your compliance with the terms of this license, including the restriction set forth in Section 2.2, Licensor hereby grants to you a perpetual, worldwide, non-exclusive, non-transferable, non-sublicenseable, no-charge, royalty-free, irrevocable license to practice any invention claimed in the Licensed Patents in any Open Source Software Implementation.
2.2 Restriction. If you or your affiliates institute patent litigation (including, but not limited to, a cross-claim or counterclaim in a lawsuit) against any entity alleging that any Use authorized by this license infringes another patent, then any rights granted to you under this license automatically terminate as of the date such litigation is filed.

3 Disclaimer
YOUR USE OF THE LICENSED PATENTS IS AT YOUR OWN RISK AND UNLESS REQUIRED BY APPLICABLE LAW, LICENSOR MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND CONCERNING THE LICENSED PATENTS OR ANY PRODUCT EMBODYING ANY LICENSED PATENT, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF TITLE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. IN NO EVENT WILL LICENSOR BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM OR RELATED TO ANY USE OF THE LICENSED PATENTS, INCLUDING, WITHOUT LIMITATION, DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES, EVEN IF LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES PRIOR TO SUCH AN OCCURRENCE.

1.110 open-ldap 2.4.46-16.el8
1.110.1 Available under license:
Copyright 1998-2020 The OpenLDAP Foundation. All rights reserved.

COPYING RESTRICTIONS APPLY.

See COPYRIGHT and LICENSE files in the top-level directory of this distribution (i.e., ../../../COPYRIGHT and ../../../LICENSE, respectively).

---

Copyright (c) 1998-1999 NeoSoft, Inc.
All Rights Reserved.

This software may be used, modified, copied, distributed, and sold, in both source and binary form provided that these copyrights are retained and their terms are followed.

Under no circumstances are the authors or NeoSoft Inc. responsible for the proper functioning of this software, nor do the authors assume any liability for damages incurred with its use.

Redistribution and use in source and binary forms are permitted provided that this notice is preserved and that due credit is given to NeoSoft, Inc.
NeoSoft, Inc. may not be used to endorse or promote products derived from this software without specific prior written permission. This software is provided `as is` without express or implied warranty.

Requests for permission may be sent to NeoSoft Inc, 1770 St. James Place, Suite 500, Houston, TX, 77056.
Copyright 1998-2020 The OpenLDAP Foundation
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted only as authorized by the OpenLDAP Public License.

A copy of this license is available in the file LICENSE in the top-level directory of the distribution or, alternatively, at <http://www.OpenLDAP.org/license.html>.

OpenLDAP is a registered trademark of the OpenLDAP Foundation.

Individual files and/or contributed packages may be copyright by other parties and/or subject to additional restrictions.

This work is derived from the University of Michigan LDAP v3.3 distribution. Information concerning this software is available at <http://www.umich.edu/~dirsvcs/ldap/ldap.html>.

This work also contains materials derived from public sources.

Additional information about OpenLDAP can be obtained at <http://www.openldap.org>.

---

Portions Copyright 2001-2006 IBM Corporation.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted only as authorized by the OpenLDAP Public License.

---

Portions Copyright 1999-2008 Symas Corporation.
Portions Copyright 2007-2011 Gavin Henry.
Portions Copyright 2007-2011 Suretec Systems Ltd.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that this notice is preserved.
The names of the copyright holders may not be used to endorse or promote products derived from this software without their specific prior written permission. This software is provided ``as is'' without express or implied warranty.

---

Portions Copyright (c) 1992-1996 Regents of the University of Michigan.
All rights reserved.

Redistribution and use in source and binary forms are permitted provided that this notice is preserved and that due credit is given to the University of Michigan at Ann Arbor. The name of the University may not be used to endorse or promote products derived from this software without specific prior written permission. This software is provided ``as is'' without express or implied warranty.

/*****************************************************************************/
* Copyright (C) 2000 Pierangelo Masarati, <ando@sys-net.it>
* All rights reserved.
* Permission is granted to anyone to use this software for any purpose
* on any computer system, and to alter it and redistribute it, subject
* to the following restrictions:
* 1. The author is not responsible for the consequences of use of this
* software, no matter how awful, even if they arise from flaws in it.
* 2. The origin of this software must not be misrepresented, either by
* explicit claim or by omission. Since few users ever read sources,
* credits should appear in the documentation.
* 3. Altered versions must be plainly marked as such, and must not be
* misrepresented as being the original software. Since few users
* ever read sources, credits should appear in the documentation.
* 4. This notice may not be removed or altered.
*/

Copyright 2011-2020 Howard Chu, Symas Corp.
All rights reserved.
Redistribution and use in source and binary forms, with or without modification, are permitted only as authorized by the OpenLDAP Public License.

A copy of this license is available in the file LICENSE in the top-level directory of the distribution or, alternatively, at <http://www.OpenLDAP.org/license.html>.

OpenLDAP is a registered trademark of the OpenLDAP Foundation.

Individual files and/or contributed packages may be copyright by other parties and/or subject to additional restrictions.

This work also contains materials derived from public sources.

Additional information about OpenLDAP can be obtained at <http://www.openldap.org/>.
Copyright 1998-2020 The OpenLDAP Foundation. All rights reserved.

COPYING RESTRICTIONS APPLY.

See COPYRIGHT and LICENSE files in the top-level directory of this distribution (i.e., ..../COPYRIGHT and ..../LICENSE, respectively).

The OpenLDAP Public License
Version 2.8, 17 August 2003

Redistribution and use of this software and associated documentation ("Software"), with or without modification, are permitted provided that the following conditions are met:

1. Redistributions in source form must retain copyright statements and notices,

2. Redistributions in binary form must reproduce applicable copyright statements and notices, this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution, and

3. Redistributions must contain a verbatim copy of this document.

The OpenLDAP Foundation may revise this license from time to time. Each revision is distinguished by a version number. You may use this Software under terms of this license revision or under the terms of any subsequent revision of the license.

THIS SOFTWARE IS PROVIDED BY THE OPENLDAP FOUNDATION AND ITS CONTRIBUTORS "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY
AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT
SHALL THE OPENLDAP FOUNDATION, ITS CONTRIBUTORS, OR THE AUTHOR(S)
OR OWNER(S) OF THE SOFTWARE BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER
CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN
ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE
POSSIBILITY OF SUCH DAMAGE.

The names of the authors and copyright holders must not be used in
advertising or otherwise to promote the sale, use or other dealing
in this Software without specific, written prior permission. Title
to copyright in this Software shall at all times remain with copyright
holders.

OpenLDAP is a registered trademark of the OpenLDAP Foundation.

Copyright 1999-2003 The OpenLDAP Foundation, Redwood City,
California, USA. All Rights Reserved. Permission to copy and
distribute verbatim copies of this document is granted.

1.111 luajit 2.1.0
1.111.1 Available under license :

===============================================================================
LuaJIT -- a Just-In-Time Compiler for Lua. http://luajit.org/

Copyright (C) 2005-2017 Mike Pall. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

[ MIT license: http://www.opensource.org/licenses/mit-license.php ]

===============================================================================
[ LuaJIT includes code from Lua 5.1/5.2, which has this license statement: ]

Copyright (C) 1994-2012 Lua.org, PUC-Rio.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

===============================================================================
[ LuaJIT includes code from dlmalloc, which has this license statement: ]

This is a version (aka dlmalloc) of malloc/free/realloc written by Doug Lea and released to the public domain, as explained at http://creativecommons.org/licenses/publicdomain

===============================================================================

1.112 libpcap 1.9.1

1.112.1 Available under license :

License: BSD

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. The names of the authors may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

/*-
 * The Regents of the University of California. All rights reserved.
 * This code is derived from the Stanford/CMU enet packet filter,
 * (net/enet.c) distributed as part of 4.3BSD, and code contributed
 * to Berkeley by Steven McCanne and Van Jacobson both of Lawrence
 * Berkeley Laboratory.
 *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 * 1. Redistributions of source code must retain the above copyright
 *    notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright
 *    notice, this list of conditions and the following disclaimer in the
 *    documentation and/or other materials provided with the distribution.
 * 3. All advertising materials mentioning features or use of this software
 *    must display the following acknowledgement:
 *    This product includes software developed by the University of
 *    California, Berkeley and its contributors.
 * 4. Neither the name of the University nor the names of its contributors
 *    may be used to endorse or promote products derived from this software
 *    without specific prior written permission.
 *
 * THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS "AS IS" AND
 * ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
 * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
 * ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
 * FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
 * DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
 * OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
 * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
 * LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
 * OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
 * SUCH DAMAGE.
 */
1.113 sshpass 1.06

1.113.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification"). Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and
distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections
1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs
If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA  02111-1307  USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year  name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.
This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

1.114 coreutils 8.31

1.114.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program--to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for them if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you these rights or asking you to surrender the rights. Therefore, you have certain responsibilities if you distribute copies of the software, or if you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.
To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system.
(if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.
3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display Appropriate Legal Notices; however, if the Program has interactive interfaces that do not display Appropriate Legal Notices, your work need not make them do so.

A compilation of a covered work with other separate and independent works, which are not by their nature extensions of the covered work, and which are not combined with it such as to form a larger program, in or on a volume of a storage or distribution medium, is called an “aggregate” if the compilation and its resulting copyright are not used to limit the access or legal rights of the compilation's users beyond what the individual works permit. Inclusion of a covered work in an aggregate does not cause this License to apply to the other parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms of sections 4 and 5, provided that you also convey the machine-readable Corresponding Source under the terms of this License, in one of these ways:

a) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by the Corresponding Source fixed on a durable physical medium customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the product that is covered by this License, on a durable physical medium customarily used for software interchange, for a price no more than your reasonable cost of physically performing this conveying of source, or (2) access to copy the Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.
d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the
Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or
c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright
holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation
(including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor's "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor's essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient's use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a
covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.
14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided
above cannot be given local legal effect according to their terms,
reviewing courts shall apply local law that most closely approximates
an absolute waiver of all civil liability in connection with the
Program, unless a warranty or assumption of liability accompanies a
copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
state the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short
notice like this when it starts in an interactive mode:

<program> Copyright (C) <year>  <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
The hypothetical commands `show w` and `show c` should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

1.115 iputils 20180629-6.el8

1.115.1 Available under license:

No license file was found, but licenses were detected in source scan.

/*
 *------------------------------------------------------------------
 * ip_parser_linkpoints.h - IP related parser linkpoint decls.
 * *
 * April, 2005
 * *
 * All rights reserved.
 * *
 *------------------------------------------------------------------
 */

Found in path(s):
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/include/ip_parser_linkpoints.h

No license file was found, but licenses were detected in source scan.

/*
 *------------------------------------------------------------------
 * util_ip.c -- miscellaneous ip specific utility routines
 * *
 * Feb 2008, Hiral mehta
 * *
 * Copyright (c) 2008, 2014 by cisco Systems, Inc.
 * All rights reserved.
 *------------------------------------------------------------------
 */
*/

Found in path(s):
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/src/ip_util.c

No license file was found, but licenses were detected in source scan.

# All rights reserved.

Found in path(s):
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/include/reg/ip_15_registry.reg
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/makefile
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/expl_path/makefile
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/src/src.mk
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/expl_path/src/src.mk

No license file was found, but licenses were detected in source scan.

/*
 * ipaddress_api.h
 *
 * February 2004
 *
 * All rights reserved.
 */

Found in path(s):
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/include/ipaddress_api.h

No license file was found, but licenses were detected in source scan.

/*
 * ip_parser_macros.h - IP* macros moved out of
 * sys/parser/macros.h
 *
 * November, 2004
 *
 * Copyright (c) 2004, 2009-2010 by cisco Systems, Inc.
 * All rights reserved.
 */

Found in path(s):
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/include/ip_parser_macros.h

No license file was found, but licenses were detected in source scan.
/*----------------------------------------------------------
 * ip_15_registry.h -- Registration Points for IP_15 support
 *
 * August 2006, Krishna Kumar Maurya
 *
 * Copyright (c) 2006-2008 by cisco Systems, Inc.
 * All rights reserved.
 */

* The file ip_registry.reg has been re-factored into 44 different
* registries to address the 2G problem. The detail regarding the
* mapping of registries into services is available at
* /vob/ios.sys1/deprecated/sys/ip/ip_registry_map.txt
* For further detail regarding the re-factoring of registries,
* please mail in your queries to dolphins@cisco.com
*/

Found in path(s):
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/include/ip_15_registry.h
No license file was found, but licenses were detected in source scan.

/*
*----------------------------------------------------------
* ip_parser_linkpoints.c - IP related parser linkpoint definitions.
*
* April, 2005
*
* Copyright (c) 2005, 2008-2009, 2014 by cisco Systems, Inc.
* All rights reserved.
*
*/

Found in path(s):
* /opt/cola/permits/1130449866_1615188952.97/0/ip-tar/ip/src/ip_parser_linkpoints.c
No license file was found, but licenses were detected in source scan.

/*
*----------------------------------------------------------
* ip_util.h
*
* February 2005
*
* Copyright (c) 2005, 2009, 2013 by cisco Systems, Inc.
* All rights reserved.
*/

Found in path(s):
No license file was found, but licenses were detected in source scan.

##
## Component "ip":
##
## Copyright (c) 2008-2009, 2013-2014 by cisco Systems, Inc.
## All rights reserved.
##

syntax: 1.0.0

# meta-source files found within component 'ip'
group: generic
{
    reg:
        include/reg/ip_15_registry.reg
        include/reg/ip_registry.reg

}

# migrated from file: 'ip/src/src.mk'
group: top
{
    includes: $(IOS_SYSROOT)/ion/include $(COMPONENT_ROOT)/posix/include
    # These diagnostic disables are temporary and must be removed
    # after fixing the problems in the source code
    if: compiler == gcc.c4.7
    {
        cflags : -Wno-error=unused-but-set-variable -Wno-error=enum-compare
    }
    sub: ip_parser
    {
        contains:
            src/ip_parser_linkpoints.c
    }
    sub: ip_registry
    {
        contains:
            src/ip_registry.c
    }
    sub: ip_util
    {
        contains:
            src/ip_util.c
    }
}
1.116 xinetd 2.3.15

1.116.1 Available under license:

This software is

(c) Copyright 1992, 1993 by Panagiotis Tsirigotis

The author (Panagiotis Tsirigotis) grants permission to use, copy, and distribute this software and its documentation for any purpose and without fee, provided that a) the above copyright notice extant in files in this distribution is not removed from files included in any redistribution, and b) this file is also included in any redistribution.

Modifications to this software may be distributed, either by distributing the modified software or by distributing patches to the original software, under the following additional terms:

1. The version number will be modified as follows:
   a. The first 3 components of the version number (i.e. <number>,<number>,<number>) will remain unchanged.
   b. A new component will be appended to the version number to indicate the modification level. The form of this component is up to the author of the modifications.

2. The author of the modifications will include his/her name by appending it along with the new version number to this file and will be responsible for any wrong behavior of the modified software.

The author makes no representations about the suitability of this software for any purpose. It is provided "as is" without any express or implied warranty.

This software is

(c) Copyright 1992 by Panagiotis Tsirigotis

The author (Panagiotis Tsirigotis) grants permission to use, copy, and distribute this software and its documentation for any purpose and without fee, provided that the above copyright notice extant in files in this distribution is not removed from files included in any redistribution and that this copyright notice is also included in any
Modifications to this software may be distributed, either by distributing the modified software or by distributing patches to the original software, under the following additional terms:

1. The version number will be modified as follows:
   a. The first 3 components of the version number (i.e. `<number>`, `<number>`, `<number>`) will remain unchanged.
   b. A new component will be appended to the version number to indicate the modification level. The form of this component is up to the author of the modifications.

2. The author of the modifications will include his/her name by appending it along with the new version number to this file and will be responsible for any wrong behavior of the modified software.

The author makes no representations about the suitability of this software for any purpose. It is provided "as is" without any express or implied warranty.

Modifications:
Version: 2.1.8.7-current
Copyright 1998-2001 by Rob Braun
/*
 * Copyright (c) 1988, 1993
 * The Regents of the University of California. All rights reserved.
 *
 * Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
 * 1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
 * 3. All advertising materials mentioning features or use of this software must display the following acknowledgement:
 *      This product includes software developed by the University of California, Berkeley and its contributors.
 * 4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.
 *
 * THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*/

ORIGINAL LICENSE:
This software is

(c) Copyright 1992 by Panagiotis Tsirigotis

The author (Panagiotis Tsirigotis) grants permission to use, copy, and distribute this software and its documentation for any purpose and without fee, provided that the above copyright notice extant in files in this distribution is not removed from files included in any redistribution and that this copyright notice is also included in any redistribution.

Modifications to this software may be distributed, either by distributing the modified software or by distributing patches to the original software, under the following additional terms:

1. The version number will be modified as follows:
   a. The first 3 components of the version number (i.e <number>.<number>.<number>) will remain unchanged.
   b. A new component will be appended to the version number to indicate the modification level. The form of this component is up to the author of the modifications.

2. The author of the modifications will include his/her name by appending it along with the new version number to this file and will be responsible for any wrong behavior of the modified software.

The author makes no representations about the suitability of this software for any purpose. It is provided "as is" without any express or implied warranty.

Modifications:
Version: 2.1.8.7-current
Copyright 1998-2001 by Rob Braun

Sensor Addition
Version: 2.1.8.9pre14a
Copyright 2001 by Steve Grubb
This is an excerpt from an email I received from the original author, allowing xinetd as maintained by me, to use the higher version numbers:

I appreciate your maintaining the version string guidelines as specified in the copyright. But I did not mean them to last as long as they did.

So, if you want, you may use any 2.N.* (N >= 3) version string for future xinetd versions that you release. Note that I am excluding the 2.2.* line; using that would only create confusion. Naming the next release 2.3.0 would put to rest the confusion about 2.2.1 and 2.1.8.*.

/*
 * ++Copyright++ 1983, 1990, 1993
 * -
 * Copyright (c) 1983, 1990, 1993
 * The Regents of the University of California. All rights reserved.
 * *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 * 1. Redistributions of source code must retain the above copyright
 *    notice, this list of conditions and the following disclaimer.
 * 2. Redistributions in binary form must reproduce the above copyright
 *    notice, this list of conditions and the following disclaimer in the
 *    documentation and/or other materials provided with the distribution.
 * 3. All advertising materials mentioning features or use of this software
 *    must display the following acknowledgement:
 *       This product includes software developed by the University of
 *       California, Berkeley and its contributors.
 * 4. Neither the name of the University nor the names of its contributors
 *    may be used to endorse or promote products derived from this software
 *    without specific prior written permission.
 * *
 * THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
 * ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
 * IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
 * ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
 * FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
 * DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
 * OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
 * HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
 * LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
 * OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
 * SUCH DAMAGE.
 * -
 * Portions Copyright (c) 1993 by Digital Equipment Corporation.
 * *
 * Permission to use, copy, modify, and distribute this software for any
 * purpose with or without fee is hereby granted, provided that the above
1.117 libcap 2.26-4.el8

1.117.1 Available under license:

Unless otherwise *explicitly* stated the following text describes the licensed conditions under which the contents of this module release may be distributed:

Redistribution and use in source and binary forms of this module, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain any existing copyright notice, and this entire permission notice in its entirety, including the disclaimer of warranties.

2. Redistributions in binary form must reproduce all prior and current copyright notices, this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. The name of any author may not be used to endorse or promote products derived from this software without their specific prior written permission.

ALTERNATIVELY, this product may be distributed under the terms of the GNU Library General Public License, in which case the provisions of the GNU LGPL are required INSTEAD OF the above restrictions. (This clause is necessary due to a potential conflict between the GNU LGPL and the restrictions contained in a BSD-style copyright.)
THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

-------------------------------------------------------------------------

Unless otherwise *explicitly* stated, the following text describes the licensed conditions under which the contents of this libcap release may be used and distributed:

-------------------------------------------------------------------------

Redistribution and use in source and binary forms of libcap, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain any existing copyright notice, and this entire permission notice in its entirety, including the disclaimer of warranties.

2. Redistributions in binary form must reproduce all prior and current copyright notices, this list of conditions, and the following disclaimer in the documentation and/or other materials provided with the distribution.

3. The name of any author may not be used to endorse or promote products derived from this software without their specific prior written permission.

ALTERNATIVELY, this product may be distributed under the terms of the GNU General Public License (v2.0 - see below), in which case the provisions of the GNU GPL are required INSTEAD OF the above restrictions. (This clause is necessary due to a potential conflict between the GNU GPL and the restrictions contained in a BSD-style copyright.)

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR(S) BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Lesser General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gatis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.
We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.
You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

   b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

   c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.
3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or
distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
to loss of data or data being rendered inaccurate or losses sustained by
you or third parties or a failure of the program to operate with any other
programs), even if such holder or other party has been advised of the
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program `Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License.

1.118 openssl 1.1.1d-r3
1.118.1 Available under license:

LICENSE ISSUES
==============

The OpenSSL toolkit stays under a double license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts.

OpenSSL License
---------------

/* ====================================================================
 * Copyright (c) 1998-2019 The OpenSSL Project. All rights reserved.
 *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 *
 * 1. Redistributions of source code must retain the above copyright
 *    notice, this list of conditions and the following disclaimer.
 *
 * 2. Redistributions in binary form must reproduce the above copyright
 *    notice, this list of conditions and the following disclaimer in
 *    the documentation and/or other materials provided with the
 *    distribution.
 *
 * 3. All advertising materials mentioning features or use of this
 *    software must display the following acknowledgment:
 *    "This product includes software developed by the OpenSSL Project

Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 2248

/* for use in the OpenSSL Toolkit. (http://www.openssl.org/)
* 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
* endorse or promote products derived from this software without
* prior written permission. For written permission, please contact
* openssl-core@openssl.org.
* 5. Products derived from this software may not be called "OpenSSL"
* nor may "OpenSSL" appear in their names without prior written
* permission of the OpenSSL Project.
* 6. Redistributions of any form whatsoever must retain the following
* acknowledgment:
* "This product includes software developed by the OpenSSL Project
* for use in the OpenSSL Toolkit (http://www.openssl.org/"
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ==============================================================
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com).  This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*/

Original SSLeay License

-----------------------

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
* All rights reserved.
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).
* The implementation was written so as to conform with Netscapes SSL.
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to. The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code. The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
* If this package is used in a product, Eric Young should be given attribution
* as the author of the parts of the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*    must display the following acknowledgement:
*    "This product includes cryptographic software written by
*     Eric Young (eay@cryptsoft.com)"
*    The word 'cryptographic' can be left out if the rouines from the library
*    being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*    the apps directory (application code) you must include an acknowledgement:
*    "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or
* derivative of this code cannot be changed. i.e. this code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA
02111-1307, USA.
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change free
software--to make sure the software is free for all its users. This
General Public License applies to most of the Free Software
Foundation's software and to any other program whose authors commit to
using it. (Some other Free Software Foundation software is covered by
the GNU Library General Public License instead.) You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
this service if you wish), that you receive source code or can get it
if you want it, that you can change the software or use pieces of it
in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid
anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you
distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must give the recipients all the rights that
you have. You must make sure that they, too, receive or can get the
source code. And you must show them these terms so they know their
rights.

We protect your rights with two steps: (1) copyright the software, and
(2) offer you this license which gives you legal permission to copy,
distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain
that everyone understands that there is no warranty for this free
software. If the software is modified by someone else and passed on, we
want its recipients to know that what they have is not the original, so
that any problems introduced by others will not reflect on the original
Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) You must cause the modified files to carry prominent notices
stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your
cost of physically performing source distribution, a complete
machine-readable copy of the corresponding source code, to be
distributed under the terms of Sections 1 and 2 above on a medium
customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such
parties remain in full compliance.

5. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Program or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the
Program), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the
Program), the recipient automatically receives a license from the
original licensor to copy, distribute or modify the Program subject to
these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.
To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>

Copyright (C) 19yy <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place - Suite 330, Boston, MA 02111-1307, USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) 19yy name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License.

The "Artistic License"

Preamble

The intent of this document is to state the conditions under which a Package may be copied, such that the Copyright Holder maintains some semblance of artistic control over the development of the package, while giving the users of the package the right to use and distribute the Package in a more-or-less customary fashion, plus the right to make reasonable modifications.

Definitions:

"Package" refers to the collection of files distributed by the Copyright Holder, and derivatives of that collection of files created through textual modification.

"Standard Version" refers to such a Package if it has not been modified, or has been modified in accordance with the wishes of the Copyright Holder as specified below.

"Copyright Holder" is whoever is named in the copyright or copyrights for the package.

"You" is you, if you're thinking about copying or distributing this Package.

"Reasonable copying fee" is whatever you can justify on the basis of media cost, duplication charges, time of people involved, and so on. (You will not be required to justify it to the Copyright Holder, but only to the computing community at large as a market that must bear the fee.)

"Freely Available" means that no fee is charged for the item itself, though there may be fees involved in handling the item. It also means that recipients of the item may redistribute it under the same conditions they received it.

1. You may make and give away verbatim copies of the source form of the Standard Version of this Package without restriction, provided that you
duplicate all of the original copyright notices and associated disclaimers.

2. You may apply bug fixes, portability fixes and other modifications
derived from the Public Domain or from the Copyright Holder. A Package
modified in such a way shall still be considered the Standard Version.

3. You may otherwise modify your copy of this Package in any way, provided
that you insert a prominent notice in each changed file stating how and
when you changed that file, and provided that you do at least ONE of the
following:

   a) place your modifications in the Public Domain or otherwise make them
      Freely Available, such as by posting said modifications to Usenet or
      an equivalent medium, or placing the modifications on a major archive
      site such as uunet.uu.net, or by allowing the Copyright Holder to include
      your modifications in the Standard Version of the Package.

   b) use the modified Package only within your corporation or organization.

   c) rename any non-standard executables so the names do not conflict
      with standard executables, which must also be provided, and provide
      a separate manual page for each non-standard executable that clearly
      documents how it differs from the Standard Version.

   d) make other distribution arrangements with the Copyright Holder.

4. You may distribute the programs of this Package in object code or
executable form, provided that you do at least ONE of the following:

   a) distribute a Standard Version of the executables and library files,
      together with instructions (in the manual page or equivalent) on where
      to get the Standard Version.

   b) accompany the distribution with the machine-readable source of
      the Package with your modifications.

   c) give non-standard executables non-standard names, and clearly
      document the differences in manual pages (or equivalent), together
      with instructions on where to get the Standard Version.

   d) make other distribution arrangements with the Copyright Holder.

5. You may charge a reasonable copying fee for any distribution of this
Package. You may charge any fee you choose for support of this
Package. You may not charge a fee for this Package itself. However,
you may distribute this Package in aggregate with other (possibly
commercial) programs as part of a larger (possibly commercial) software
distribution provided that you do not advertise this Package as a
product of your own. You may embed this Package's interpreter within an executable of yours (by linking); this shall be construed as a mere form of aggregation, provided that the complete Standard Version of the interpreter is so embedded.

6. The scripts and library files supplied as input to or produced as output from the programs of this Package do not automatically fall under the copyright of this Package, but belong to whoever generated them, and may be sold commercially, and may be aggregated with this Package. If such scripts or library files are aggregated with this Package via the so-called "undump" or "unexec" methods of producing a binary executable image, then distribution of such an image shall neither be construed as a distribution of this Package nor shall it fall under the restrictions of Paragraphs 3 and 4, provided that you do not represent such an executable image as a Standard Version of this Package.

7. C subroutines (or comparably compiled subroutines in other languages) supplied by you and linked into this Package in order to emulate subroutines and variables of the language defined by this Package shall not be considered part of this Package, but are the equivalent of input as in Paragraph 6, provided these subroutines do not change the language in any way that would cause it to fail the regression tests for the language.

8. Aggregation of this Package with a commercial distribution is always permitted provided that the use of this Package is embedded; that is, when no overt attempt is made to make this Package's interfaces visible to the end user of the commercial distribution. Such use shall not be construed as a distribution of this Package.

9. The name of the Copyright Holder may not be used to endorse or promote products derived from this software without specific prior written permission.

10. THIS PACKAGE IS PROVIDED "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The End

1.119 libsemanage 2.9-4.el8
1.119.1 Available under license :

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.
Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the

59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third
parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

   a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

   b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
c) Accompany it with the information you received as to the offer
to distribute corresponding source code. (This alternative is
allowed only for noncommercial distribution and only if you
received the program in object code or executable form with such
an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for
making modifications to it. For an executable work, complete source
code means all the source code for all modules it contains, plus any
associated interface definition files, plus the scripts used to
control compilation and installation of the executable. However, as a
special exception, the source code distributed need not include
anything that is normally distributed (in either source or binary
form) with the major components (compiler, kernel, and so on) of the
operating system on which the executable runs, unless that component
itself accompanies the executable.

If distribution of executable or object code is made by offering
access to copy from a designated place, then offering equivalent
access to copy the source code from the same place counts as
distribution of the source code, even though third parties are not
compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program
except as expressly provided under this License. Any attempt
otherwise to copy, modify, sublicense or distribute the Program is
void, and will automatically terminate your rights under this License.
However, parties who have received copies, or rights, from you under
this License will not have their licenses terminated so long as such
parties remain in full compliance.

5. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Program or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Program (or any work based on the
Program), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the
Program), the recipient automatically receives a license from the
original licensor to copy, distribute or modify the Program subject to
these terms and conditions. You may not impose any further
restrictions on the recipients’ exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties to
this License.
7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of
this License, you may choose any version ever published by the Free Software
Foundation.

10. If you wish to incorporate parts of the Program into other free
programs whose distribution conditions are different, write to the author
to ask for permission. For software which is copyrighted by the Free
Software Foundation, write to the Free Software Foundation; we sometimes
make exceptions for this. Our decision will be guided by the two goals
of preserving the free status of all derivatives of our free software and
of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY
FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN
OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES
PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED
OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS
TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE
PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING,
REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING
WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR
REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES,
INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING
OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED
TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY
YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER
PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE
POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest
possible use to the public, the best way to achieve this is to make it
free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest
to attach them to the start of each source file to most effectively
convey the exclusion of warranty; and each file should have at least
the "copyright" line and a pointer to where the full notice is found.
<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License
along with this program; if not, write to the Free Software
Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Library General
Public License instead of this License.
1.120 nghttp2 1.41.0

1.120.1 Available under license:

LEGAL NOTICE INFORMATION
------------------------

All the files in this distribution are covered under the MIT license
(see the file LICENSE) except some files mentioned below:
The MIT License

Copyright (c) 2012, 2014, 2015, 2016 Tatsuhiro Tsujikawa
Copyright (c) 2012, 2014, 2015, 2016 nghttp2 contributors

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

set yrange [0:]
set terminal pngcairo font 'Sans, 8' lw 1 size 1400,1024
set xtics rotate by -45
set style histogram errorbars gap 2 lw 1
set style fill solid border -1
Copyright (c) 2019 mruby developers

Permission is hereby granted, free of charge, to any person obtaining a
copy of this software and associated documentation files (the "Software"),
to deal in the Software without restriction, including without limitation
the rights to use, copy, modify, merge, publish, distribute, sublicense,
and/or sell copies of the Software, and to permit persons to whom the
Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

If not otherwise noted, the extensions in this package are licensed under the following license.

Copyright (c) 2010 by the contributors (see AUTHORS file). All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

1.121 libmnl 1.0.4-6.el8

1.121.1 Available under license :

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know
that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.
Although the Lesser General Public License is less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's
You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

   c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

   d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote
Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library
creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the
Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.
It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW.
EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the library, if
necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the
library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

1.122 visual-studio-runtime 14.00.24210.0

1.122.1 Available under license:

THIRD-PARTY SOFTWARE NOTICES AND INFORMATION
Do Not Translate or Localize

This project incorporates components from the projects listed below. The original copyright notices and the licenses
under which Microsoft received such components are set forth below. Microsoft reserves all rights not expressly
granted herein, whether by implication, estoppel or otherwise.

%% winjs version 4.4.0 (https://github.com/winjs/winjs)
=========================================
WinJS

Copyright (c) Microsoft Corporation

All rights reserved.

MIT License

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated
documentation files (the "Software"), to deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit
persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the
Software.

THE SOFTWARE IS PROVIDED *AS IS*, WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED,
INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A
PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

========================================
END OF winjs NOTICES AND INFORMATION

%%% string_scorer version 0.1.20 (https://github.com/joshaven/string_score)
========================================
This software is released under the MIT license:

Copyright (c) Joshaven Potter

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal in
the Software without restriction, including without limitation the rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of
the Software, and to permit persons to whom the Software is furnished to do so,
subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS
FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
========================================
END OF string_scorer NOTICES AND INFORMATION

%%% chjj-marked NOTICES AND INFORMATION BEGIN HERE
========================================
The MIT License (MIT)

Copyright (c) 2011-2014, Christopher Jeffrey (https://github.com/chjj/)

------------------------------------------
Open Source Used In Petra/TRAX/Arthas RM Ipcentral 17.6 2280
Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

========================================
END OF chjj-marked NOTICES AND INFORMATION

THIRD-PARTY SOFTWARE NOTICES AND INFORMATION

For Microsoft vscode-theme-seti

This file is based on or incorporates material from the projects listed below ("Third Party OSS"). The original copyright notice and the license under which Microsoft received such Third Party OSS, are set forth below. Such licenses and notice are provided for informational purposes only. Microsoft licenses the Third Party OSS to you under the licensing terms for the Microsoft product or service. Microsoft reserves all other rights not expressly granted under this agreement, whether by implication, estoppel or otherwise.


Copyright (c) 2014 Jesse Weed

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The MIT License (MIT)

Copyright (c) 2015 David Owens II

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Text mate grammar:

Copyright (c) 2014 Darin Morrison

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright (c) 2011-2014, Christopher Jeffrey (https://github.com/chjj/)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

The MIT License (MIT)

Copyright (c) 2016 Microsoft Corporation

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

MIT License

Copyright (c) 2015 - present Microsoft Corporation
All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

microsoft-vscode

THIRD-PARTY SOFTWARE NOTICES AND INFORMATION
Do Not Translate or Localize

This project incorporates components from the projects listed below. The original copyright notices and the licenses under which Microsoft received such components are set forth below. Microsoft reserves all rights not expressly granted herein, whether by implication, estoppel or otherwise.

1. atom/language-c (https://github.com/atom/language-c)
5. atom/language-java (https://github.com/atom/language-java)
7. atom/language-sass version 0.52.0 (https://github.com/atom/language-sass)
10. chjj-marked version 0.3.6 (https://github.com/npmcomponent/chjj-marked)
11. chriskempson/tomorrow-theme (https://github.com/chriskempson/tomorrow-theme)
12. Colors sublime-Themes version 0.1.0 (https://github.com/Colors sublime-Themes)
13. daainain/Handlebars (https://github.com/daainain/Handlebars)
15. definitelytyped (https://github.com/DefinitelyTyped/DefinitelyTyped)
17. dotnet/csharp-tmLanguage version 0.1.0 (https://github.com/dotnet/csharp-tmLanguage)
19. HTML 5.1 W3C Working Draft version 08 October 2015 (http://www.w3.org/TR/2015/WD-html51-20151008/)
20. Ionic documentation version 1.2.4 (https://github.com/ionic-team/ionic-site)
22. js-beautify version 1.6.8 (https://github.com/beautify-web/js-beautify)
23. Jxck/assert version 1.0.0 (https://github.com/Jxck/assert)
24. language-docker (https://github.com/moby/moby)
25. language-go version 0.39.0 (https://github.com/atom/language-go)
26. language-less (https://github.com/atom/language-less)
28. language-rust version 0.4.9 (https://github.com/zargony/atom-language-rust)
30. Microsoft/TypeScript-TmLanguage version 0.0.1 (https://github.com/Microsoft/TypeScript-TmLanguage)
31. octicons-code version 3.1.0 (https://octicons.github.com)
32. octicons-font version 3.1.0 (https://octicons.github.com)
33. seti-ui version 0.1.0 (https://github.com/jesseweed/seti-ui)
34. shaders-tmLanguage version 0.1.0 (https://github.com/tgjones/shaders-tmLanguage)
35. string_scorer version 0.1.20 (https://github.com/joshaven/string_score)
36. sublimehq/Packages (https://github.com/sublimehq/Packages)
37. SublimeText/PowerShell (https://github.com/SublimeText/PowerShell)
38. textmate/asp.vb.net.tmbundle (https://github.com/textmate/asp.vb.net.tmbundle)
39. textmate/c.tmbundle (https://github.com/textmate/c.tmbundle)
40. textmate/diff.tmbundle (https://github.com/textmate/diff.tmbundle)
41. textmate/git.tmbundle (https://github.com/textmate/git.tmbundle)
42. textmate/groovy.tmbundle (https://github.com/textmate/groovy.tmbundle)
43. textmate/html.tmbundle (https://github.com/textmate/html.tmbundle)
44. textmate/ini.tmbundle (https://github.com/textmate/ini.tmbundle)
45. textmate/javascript.tmbundle (https://github.com/textmate/javascript.tmbundle)
46. textmate/lua.tmbundle (https://github.com/textmate/lua.tmbundle)
47. textmate/make.tmbundle (https://github.com/textmate/make.tmbundle)
48. textmate/markdown.tmbundle (https://github.com/textmate/markdown.tmbundle)
49. textmate/perl.tmbundle (https://github.com/textmate/perl.tmbundle)
50. textmate/r.tmbundle (https://github.com/textmate/r.tmbundle)
51. textmate/ruby.tmbundle (https://github.com/textmate/ruby.tmbundle)
52. textmate/shellscrip.tmbundle (https://github.com/textmate/shellscrip.tmbundle)
53. textmate/sql.tmbundle (https://github.com/textmate/sql.tmbundle)
54. textmate/yaml.tmbundle (https://github.com/textmate/yaml.tmbundle)
55. TypeScript-TmLanguage version 0.1.8 (https://github.com/Microsoft/TypeScript-TmLanguage)
56. vscode-swift version 0.0.1 (https://github.com/owensd/vscode-swift)

%% atom/language-c NOTICES AND INFORMATION BEGIN HERE
=====================================================================
The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish, 
distribute, sublicense, and/or sell copies of the Software, and to 
permit persons to whom the Software is furnished to do so, subject to 
the following conditions:

The above copyright notice and this permission notice shall be 
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, 
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF 
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND 
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE 
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION 
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION 
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at 
https://github.com/textmate/c.tmbundle and distributed under the following 
license, located in `README.mdown`:

Permission to copy, use, modify, sell and distribute this 
software is granted. This software is provided "as is" without 
express or implied warranty, and with no claim as to its 
suitability for any purpose.

@end

END OF atom/language-c NOTICES AND INFORMATION

%% atom/language-clojure NOTICES AND INFORMATION BEGIN HERE

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining 
a copy of this software and associated documentation files (the 
"Software"), to deal in the Software without restriction, including 
without limitation the rights to use, copy, modify, merge, publish, 
distribute, sublicense, and/or sell copies of the Software, and to 
permit persons to whom the Software is furnished to do so, subject to 
the following conditions:

The above copyright notice and this permission notice shall be 
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, 
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF 
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND 
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE 
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at
https://github.com/mmcgrana/textmate-clojure and distributed under the
following license, located in `LICENSE.md`:

The MIT License (MIT)

Copyright (c) 2010- Mark McGranaghan

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

END OF atom/language-clojure NOTICES AND INFORMATION

%% atom/language-coffee-script NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at https://github.com/jashkenas/coffee-script-tmbundle and distributed under the following license, located in `LICENSE`:

Copyright (c) 2009-2014 Jeremy Ashkenas

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF atom/language-coffee-script NOTICES AND INFORMATION

%% atom/language-css NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish, 
distribute, sublicense, and/or sell copies of the Software, and to 
permit persons to whom the Software is furnished to do so, subject to 
the following conditions:

The above copyright notice and this permission notice shall be 
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, 
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF 
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND 
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE 
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION 
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION 
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at 
https://github.com/textmate/css.tmbundle and distributed under the following 
license, located in `README.mdown`:

Permission to copy, use, modify, sell and distribute this 
software is granted. This software is provided "as is" without 
express or implied warranty, and with no claim as to its 
suitability for any purpose.

END OF atom/language-css NOTICES AND INFORMATION

%% atom/language-java NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining 
a copy of this software and associated documentation files (the 
"Software"), to deal in the Software without restriction, including 
without limitation the rights to use, copy, modify, merge, publish, 
distribute, sublicense, and/or sell copies of the Software, and to 
permit persons to whom the Software is furnished to do so, subject to 
the following conditions:

The above copyright notice and this permission notice shall be 
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, 
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF 
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at https://github.com/textmate/java.tmbundle and distributed under the following license, located in `README.mdown`:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

END OF atom/language-java NOTICES AND INFORMATION

%% atom/language-objective-c NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at https://github.com/textmate/objective-c.tmbundle and distributed under the following license, located in `README.mdown`:

Permission to copy, use, modify, sell and distribute this
software is granted. This software is provided "as is" without
express or implied warranty, and with no claim as to its
suitability for any purpose.
========================================
END OF atom/language-objective-c NOTICES AND INFORMATION

%= atom/language-sass NOTICES AND INFORMATION BEGIN HERE
========================================
The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND,
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at
https://github.com/alexsancho/Sass.tmbundle and distributed under the following
license, located in `LICENSE.md`:

Copyright (c) 2012 Alex Sancho, http://alexsancho.name/

Permission is hereby granted, free of charge, to any person obtaining
a copy of this software and associated documentation files (the
"Software"), to deal in the Software without restriction, including
without limitation the rights to use, copy, modify, merge, publish,
distribute, sublicense, and/or sell copies of the Software, and to
permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be
included in all copies or substantial portions of the Software.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

=================================================================
END OF atom/language-sass NOTICES AND INFORMATION

%% atom/language-xml NOTICES AND INFORMATION BEGIN HERE

=================================================================

The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at https://github.com/textmate/xml.tmbundle and distributed under the following license, located in `README.mdown`:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

=================================================================
END OF atom/language-xml NOTICES AND INFORMATION
The MIT License (MIT)

Copyright (c) 2015 simonzack, zertos, benvie

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF Benvie/JavaScriptNext.tmLanguage NOTICES AND INFORMATION

The MIT License (MIT)

Copyright (c) 2011-2014, Christopher Jeffrey (https://github.com/chjj/)

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
The MIT License (MIT)

Copyright (C) 2013 Chris Kempson

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.
===============================================================================
END OF ColorsLime-Themes NOTICES AND INFORMATION

%% daaain/Handlebars NOTICES AND INFORMATION BEGIN HERE
===============================================================================
-- Credits

Adapted from the great sublime-text-handlebars package by Nicholas Westlake.

Thanks a lot to all the generous contributors (in alphabetical order): @bittersweetryan, @bradcliffe, @calumbrodie,
@duncanbeever, @hlvnst, @jonschlinkert, @Krutius, @samselikoff, @utkarshkukreti, @zeppelin

-- License

(The MIT License)

Copyright (c) daaain/Handlebars project authors

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated
documentation files (the "Software"), to deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit
persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the
Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED,
INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A
PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
===============================================================================
END OF daaain/Handlebars NOTICES AND INFORMATION

%% davidrios/jade-tmbundle NOTICES AND INFORMATION BEGIN HERE
===============================================================================
The MIT License (MIT)

Copyright (c) 2014 David Rios

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated
documentation files (the "Software"), to deal in the Software without restriction, including without limitation the
rights to
use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to
whom the Software is furnished to do so, subject to the following conditions:
The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF davidrios/jade-tmbundle NOTICES AND INFORMATION

%%% definitelytyped NOTICES AND INFORMATION BEGIN HERE

This project is licensed under the MIT license. Copyrights are respective of each contributor listed at the beginning of each definition file.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF definitelytyped NOTICES AND INFORMATION

%%% demyte/language-cshtml NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright (c) 2014 James Summerton

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to
the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF demyte/language-cshtml NOTICES AND INFORMATION

%%% dotnet/csharp-tmLanguage NOTICES AND INFORMATION BEGIN HERE

MIT License

Copyright (c) 2016 .NET Foundation

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF dotnet/csharp-tmLanguage NOTICES AND INFORMATION

%%% freebroccolo/atom-language-swift NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright (c) 2014 Darin Morrison

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
SOFTWARE.

END OF freebroccolo/atom-language-swift NOTICES AND INFORMATION

---

%% HTML 5.1 W3C Working Draft NOTICES AND INFORMATION BEGIN HERE

===================================================================
Copyright 2015 W3C (MIT, ERCIM, Keio, Beihang). This software or document includes material copied
from or derived from HTML 5.1 W3C Working Draft (http://www.w3.org/TR/2015/WD-html51-20151008/)

THIS DOCUMENT IS PROVIDED "AS IS," AND COPYRIGHT HOLDERS MAKE NO REPRESENTATIONS
OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT
NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE,
NON-INFRINGEMENT, OR TITLE; THAT THE CONTENTS OF
THE DOCUMENT ARE SUITABLE FOR ANY PURPOSE; NOR THAT THE IMPLEMENTATION OF SUCH
CONTENTS WILL NOT INFRINGE ANY THIRD PARTY
PATENTS, COPYRIGHTS, TRADEMARKS OR OTHER RIGHTS.

COPYRIGHT HOLDERS WILL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL OR
CONSEQUENTIAL DAMAGES ARISING OUT OF ANY USE OF THE
DOCUMENT OR THE PERFORMANCE OR IMPLEMENTATION OF THE CONTENTS THEREOF.

The name and trademarks of copyright holders may NOT be used in advertising or publicity pertaining to this
document or its contents
without specific, written prior permission. Title to copyright in this document will at all times remain with copyright
holders.

===================================================================
END OF HTML 5.1 W3C Working Draft NOTICES AND INFORMATION

---

%% Ionic documentation NOTICES AND INFORMATION BEGIN HERE

===================================================================
Copyright Drifty Co. http://drifty.com/

Apache License
TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.
2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

You must give any other recipients of the Work or Derivative Works a copy of this License; and

You must cause any modified files to carry prominent notices stating that You changed the files; and

You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License. You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and
reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS
============================================================================
END OF Ionic documentation NOTICES AND INFORMATION

%% ionide/ionide-fsgrammar NOTICES AND INFORMATION BEGIN HERE
============================================================================
The MIT License (MIT)

Copyright (c) 2015 Krzysztof Cieslak

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

========================================
END OF ionide/ionide-fsgrammar NOTICES AND INFORMATION

%% js-beautify NOTICES AND INFORMATION BEGIN HERE

========================================
The MIT License (MIT)

Copyright (c) 2007-2017 Einar Lielmanis, Liam Newman, and contributors.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated
documentation files (the "Software"), to deal in the Software without restriction, including without limitation the
rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit
persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the
Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED,
INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A
PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR
COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN
AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

========================================
END OF js-beautify NOTICES AND INFORMATION

%% Jxck/assert NOTICES AND INFORMATION BEGIN HERE

========================================
The MIT License (MIT)

Copyright (c) 2011 Jxck

Originally from node.js (http://nodejs.org)
Copyright Joyent, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of
this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all
copies or substantial portions of the Software.
THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

=========================================
END OF Jxck/assert NOTICES AND INFORMATION

%% language-docker NOTICES AND INFORMATION BEGIN HERE

=========================================

Apache License
Version 2.0, January 2004
https://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a
copyright notice that is included in or attached to the work
(an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object
form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations, or other modifications
represent, as a whole, an original work of authorship. For the purposes
of this License, Derivative Works shall not include works that remain
separable from, or merely link (or bind by name) to the interfaces of,
the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including
the original version of the Work and any modifications or additions
to that Work or Derivative Works thereof, that is intentionally
submitted to Licensor for inclusion in the Work by the copyright owner
or by an individual or Legal Entity authorized to submit on behalf of
the copyright owner. For the purposes of this definition, "submitted"
means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to
communication on electronic mailing lists, source code control systems,
and issue tracking systems that are managed by, or on behalf of, the
Licensor for the purpose of discussing and improving the Work, but
excluding communication that is conspicuously marked or otherwise
designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity
on behalf of whom a Contribution has been received by Licensor and
subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
copyright license to reproduce, prepare Derivative Works of,
publicly display, publicly perform, sublicense, and distribute the
Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of
this License, each Contributor hereby grants to You a perpetual,
worldwide, non-exclusive, no-charge, royalty-free, irrevocable
(except as stated in this section) patent license to make, have made,
use, offer to sell, sell, import, and otherwise transfer the Work,
where such license applies only to those patent claims licensable
by such Contributor that are necessarily infringed by their
Contribution(s) alone or by combination of their Contribution(s)
with the Work to which such Contribution(s) was submitted. If You
institute patent litigation against any entity (including a
cross-claim or counterclaim in a lawsuit) alleging that the Work
or a Contribution incorporated within the Work constitutes direct
or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of
this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

Copyright 2013-2017 Docker, Inc.

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License. 
You may obtain a copy of the License at 

https://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software 
distributed under the License is distributed on an "AS IS" BASIS, 
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied. 
See the License for the specific language governing permissions and 
limitations under the License.

========================================= 
END OF language-docker NOTICES AND INFORMATION

%% language-go NOTICES AND INFORMATION BEGIN HERE

========================================= 
The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining 
a copy of this software and associated documentation files (the 
"Software"), to deal in the Software without restriction, including 
without limitation the rights to use, copy, modify, merge, publish, 
distribute, sublicense, and/or sell copies of the Software, and to 
permit persons to whom the Software is furnished to do so, subject to 
the following conditions:

The above copyright notice and this permission notice shall be 
included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, 
EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF 
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND 
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE 
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION 
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION 
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at 
https://github.com/rsms/Go.tmbundle and distributed under the following 
license, located in 'LICENSE':

Copyright (c) 2009 Rasmus Andersson

Permission is hereby granted, free of charge, to any person obtaining a copy 
of this software and associated documentation files (the "Software"), to deal 
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

The Go Template grammar was derived from GoSublime located at
https://github.com/DisposaBoy/GoSublime and distributed under the following
license, located in `LICENSE.md`:

Copyright (c) 2012 The GoSublime Authors

Permission is hereby granted, free of charge, to any person obtaining a copy
of this software and associated documentation files (the "Software"), to deal
in the Software without restriction, including without limitation the rights
to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
copies of the Software, and to permit persons to whom the Software is
furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in
all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN
THE SOFTWARE.

END OF language-go NOTICES AND INFORMATION

%% language-less NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.
Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at https://github.com/textmate/less.tmbundle and distributed under the following license, located in `LICENSE.md`:

Copyright (c) 2010 Scott Kyle and Rasmus Andersson

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

========================================
END OF language-less NOTICES AND INFORMATION

%% language-php NOTICES AND INFORMATION BEGIN HERE

========================================
The MIT License (MIT)

Copyright (c) 2014 GitHub Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the “Software”), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

This package was derived from a TextMate bundle located at https://github.com/textmate/php.tmbundle and distributed under the following license, located in `README.mdown`:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

=========================================
END OF language-php NOTICES AND INFORMATION

%% language-rust NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright `2013` `Andreas Neuhaus` `http://zargony.com`/

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:
The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF language-rust NOTICES AND INFORMATION

%%% MagicStack/MagicPython NOTICES AND INFORMATION BEGIN HERE

The MIT License

Copyright (c) 2015-present MagicStack Inc. http://magic.io

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF MagicStack/MagicPython NOTICES AND INFORMATION

%%% Microsoft/TypeScript-TmLanguage NOTICES AND INFORMATION BEGIN HERE

Copyright (c) Microsoft Corporation. All rights reserved.

Apache License
Version 2.0, January 2004
http://www.apache.org/licenses/

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION
1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent
to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work,
excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any
risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS
========================================
END OF Microsoft/TypeScript-TmLanguage NOTICES AND INFORMATION

c% octicons-code NOTICES AND INFORMATION BEGIN HERE
========================================
The MIT License (MIT)

(c) 2012-2015 GitHub

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

========================================

END OF octicons-code NOTICES AND INFORMATION

%%% octicons-font NOTICES AND INFORMATION BEGIN HERE

========================================

(c) 2012-2015 GitHub

SIL OPEN FONT LICENSE Version 1.1 - 26 February 2007

PREAMBLE
The goals of the Open Font License (OFL) are to stimulate worldwide development of collaborative font projects, to support the font creation efforts of academic and linguistic communities, and to provide a free and open framework in which fonts may be shared and improved in partnership with others.

The OFL allows the licensed fonts to be used, studied, modified and redistributed freely as long as they are not sold by themselves. The fonts, including any derivative works, can be bundled, embedded, redistributed and/or sold with any software provided that any reserved names are not used by derivative works. The fonts and derivatives, however, cannot be released under any other type of license. The requirement for fonts to remain under this license does not apply to any document created using the fonts or their derivatives.

DEFINITIONS
"Font Software" refers to the set of files released by the Copyright Holder(s) under this license and clearly marked as such. This may include source files, build scripts and documentation.

"Reserved Font Name" refers to any names specified as such after the copyright statement(s).

"Original Version" refers to the collection of Font Software components as distributed by the Copyright Holder(s).

"Modified Version" refers to any derivative made by adding to, deleting, or substituting -- in part or in whole -- any of the components of the Original Version, by changing formats or by porting the Font Software to a new environment.

"Author" refers to any designer, engineer, programmer, technical writer or other person who contributed to the Font Software.
PERMISSION & CONDITIONS
Permission is hereby granted, free of charge, to any person obtaining a copy of the Font Software, to use, study, copy, merge, embed, modify, redistribute, and sell modified and unmodified copies of the Font Software, subject to the following conditions:

1) Neither the Font Software nor any of its individual components, in Original or Modified Versions, may be sold by itself.

2) Original or Modified Versions of the Font Software may be bundled, redistributed and/or sold with any software, provided that each copy contains the above copyright notice and this license. These can be included either as stand-alone text files, human-readable headers or in the appropriate machine-readable metadata fields within text or binary files as long as those fields can be easily viewed by the user.

3) No Modified Version of the Font Software may use the Reserved Font Name(s) unless explicit written permission is granted by the corresponding Copyright Holder. This restriction only applies to the primary font name as presented to the users.

4) The name(s) of the Copyright Holder(s) or the Author(s) of the Font Software shall not be used to promote, endorse or advertise any Modified Version, except to acknowledge the contribution(s) of the Copyright Holder(s) and the Author(s) or with their explicit written permission.

5) The Font Software, modified or unmodified, in part or in whole, must be distributed entirely under this license, and must not be distributed under any other license. The requirement for fonts to remain under this license does not apply to any document created using the Font Software.

TERMINATION
This license becomes null and void if any of the above conditions are not met.

DISCLAIMER
THE FONT SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF COPYRIGHT, PATENT, TRADEMARK, OR OTHER RIGHT. IN NO EVENT SHALL THE COPYRIGHT HOLDER BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, INCLUDING ANY GENERAL, SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF THE USE OR INABILITY TO USE THE FONT SOFTWARE OR FROM OTHER DEALINGS IN THE FONT SOFTWARE.

========================================
Copyright (c) 2014 Jesse Weed

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

MIT License

Copyright (c) 2017 Tim Jones

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

=========================================
END OF shaders-tmLanguage NOTICES AND INFORMATION

%% string_scoring NOTICES AND INFORMATION BEGIN HERE
=========================================
This software is released under the MIT license:

Copyright (c) Joshaven Potter

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

=========================================
END OF string_scoring NOTICES AND INFORMATION

%% sublimehq/Packages NOTICES AND INFORMATION BEGIN HERE
=========================================
Copyright (c) Sublime Packages project authors

If not otherwise specified (see below), files in this folder fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a ".license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

=========================================
END OF sublimehq/Packages NOTICES AND INFORMATION
The MIT License (MIT)

Copyright (c) 2011 Guillermo Lpez-Anglada

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF SublimeText/PowerShell NOTICES AND INFORMATION

Copyright (c) textmate-asp.vb.net.tmbundle project authors

If not otherwise specified (see below), files in this folder fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a ".license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/asp.vb.net.tmbundle NOTICES AND INFORMATION

Copyright (c) textmate-c.tmbundle authors

If not otherwise specified (see below), files in this repository fall under the following license:

Permission to copy, use, modify, sell and distribute this
software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/c.tmbundle NOTICES AND INFORMATION

%% textmate/diff.tmbundle NOTICES AND INFORMATION BEGIN HERE

Copyright (c) textmate-diff.tmbundle project authors

If not otherwise specified (see below), files in this repository fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/diff.tmbundle NOTICES AND INFORMATION

%% textmate/git.tmbundle NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright (c) 2008 Tim Harper

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the"Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND
NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE
LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION
OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION
WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
========================================
END OF textmate/git.tmbundle NOTICES AND INFORMATION

%%% textmate/groovy.tmbundle NOTICES AND INFORMATION BEGIN HERE
========================================
Copyright (c) textmate-groovy.tmbundle project authors

If not otherwise specified (see below), files in this repository fall under the following license:

Permission to copy, use, modify, sell and distribute this
software is granted. This software is provided "as is" without
express or implied warranty, and with no claim as to its
suitability for any purpose.

An exception is made for files in readable text which contain their own license information,
or files where an accompanying file exists (in the same directory) with a "-license" suffix added
to the base-name name of the original file, and an extension of txt, html, or similar. For example
"tidy" is accompanied by "tidy-license.txt".
========================================
END OF textmate/groovy.tmbundle NOTICES AND INFORMATION

%%% textmate/html.tmbundle NOTICES AND INFORMATION BEGIN HERE
========================================
Copyright (c) textmate-html.tmbundle project authors

If not otherwise specified (see below), files in this repository fall under the following license:

Permission to copy, use, modify, sell and distribute this
software is granted. This software is provided "as is" without
express or implied warranty, and with no claim as to its
suitability for any purpose.

An exception is made for files in readable text which contain their own license information,
or files where an accompanying file exists (in the same directory) with a "-license" suffix added
to the base-name name of the original file, and an extension of txt, html, or similar. For example
"tidy" is accompanied by "tidy-license.txt".
========================================
END OF textmate/html.tmbundle NOTICES AND INFORMATION

%%% textmate/ini.tmbundle NOTICES AND INFORMATION BEGIN HERE
========================================
Copyright (c) textmateIni.tmbundle project authors
If not otherwise specified (see below), files in this folder fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/ini.tmbundle NOTICES AND INFORMATION

%% textmate/javascript.tmbundle NOTICES AND INFORMATION BEGIN HERE
Copyright (c) textmate-javascript.tmbundle project authors

If not otherwise specified (see below), files in this repository fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/javascript.tmbundle NOTICES AND INFORMATION

%% textmate/lua.tmbundle NOTICES AND INFORMATION BEGIN HERE
Copyright (c) textmate-lua.tmbundle project authors

If not otherwise specified (see below), files in this repository fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/lua.tmbundle NOTICES AND INFORMATION
Copyright (c) [project authors]

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

Copyright (c) [project authors]

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

Copyright (c) [project authors]

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".
An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/perl.tmbundle NOTICES AND INFORMATION

%% textmate/r.tmbundle NOTICES AND INFORMATION BEGIN HERE

Copyright (c) textmate-r.tmbundle project authors

If not otherwise specified (see below), files in this folder fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

END OF textmate/r.tmbundle NOTICES AND INFORMATION

%% textmate/ruby.tmbundle NOTICES AND INFORMATION BEGIN HERE

Copyright (c) textmate-ruby.tmbundle project authors

If not otherwise specified (see below), files in this folder fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/ruby.tmbundle NOTICES AND INFORMATION

%% textmate/shellscript.tmbundle NOTICES AND INFORMATION BEGIN HERE

Copyright (c) textmate-shellscript.tmbundle project authors

If not otherwise specified (see below), files in this repository fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its
suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/shellscript.tmbundle NOTICES AND INFORMATION

%% textmate/sql.tmbundle NOTICES AND INFORMATION BEGIN HERE

Copyright (c) textmate-sql.tmbundle project authors

If not otherwise specified (see below), files in this folder fall under the following license:

Permission to copy, use, modify, sell and distribute this software is granted. This software is provided "as is" without express or implied warranty, and with no claim as to its suitability for any purpose.

An exception is made for files in readable text which contain their own license information, or files where an accompanying file exists (in the same directory) with a "-license" suffix added to the base-name name of the original file, and an extension of txt, html, or similar. For example "tidy" is accompanied by "tidy-license.txt".

END OF textmate/sql.tmbundle NOTICES AND INFORMATION

%% textmate/yaml.tmbundle NOTICES AND INFORMATION BEGIN HERE

Copyright (c) 2015 FichteFoll <fichtefoll2@googlemail.com>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
 TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the
editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.

4. Redistribution. You may reproduce and distribute copies of the
Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:

(a) You must give any other recipients of the Work or Derivative Works a copy of this License; and

(b) You must cause any modified files to carry prominent notices stating that You changed the files; and

(c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and

(d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.

8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.

9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS
========================================
END OF TypeScript-TmLanguage NOTICES AND INFORMATION

%% vscode-swift NOTICES AND INFORMATION BEGIN HERE

The MIT License (MIT)

Copyright (c) 2015 David Owens II
Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

END OF vscode-swift NOTICES AND INFORMATION
Microsoft Public License (Ms-PL)

This license governs use of the accompanying software. If you use the software, you accept this license. If you do not accept the license, do not use the software.

1. Definitions

The terms "reproduce," "reproduction," "derivative works," and "distribution" have the same meaning here as under U.S. copyright law.

A "contribution" is the original software, or any additions or changes to the software.

A "contributor" is any person that distributes its contribution under this license.

"Licensed patents" are a contributor's patent claims that read directly on its contribution.

2. Grant of Rights

(A) Copyright Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free copyright license to reproduce its contribution, prepare derivative works of its contribution, and distribute its contribution or any derivative works that you create.

(B) Patent Grant- Subject to the terms of this license, including the license conditions and limitations in section 3, each contributor grants you a non-exclusive, worldwide, royalty-free license under its licensed patents to make, have made, use, sell, offer for sale, import, and/or otherwise dispose of its contribution in the software or derivative works of the contribution in the software.

3. Conditions and Limitations
(A) No Trademark License- This license does not grant you rights to use any contributors’ name, logo, or trademarks.

(B) If you bring a patent claim against any contributor over patents that you claim are infringed by the software, your patent license from such contributor to the software ends automatically.

(C) If you distribute any portion of the software, you must retain all copyright, patent, trademark, and attribution notices that are present in the software.

(D) If you distribute any portion of the software in source code form, you may do so only under this license by including a complete copy of this license with your distribution. If you distribute any portion of the software in compiled or object code form, you may only do so under a license that complies with this license.

(E) The software is licensed "as-is.” You bear the risk of using it. The contributors give no express warranties, guarantees or conditions. You may have additional consumer rights under your local laws which this license cannot change. To the extent permitted under your local laws, the contributors exclude the implied warranties of merchantability, fitness for a particular purpose and non-infringement.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

MICROSOFT SOFTWARE LICENSE TERMS
MICROSOFT VISUAL STUDIO ENTERPRISE 2017, VISUAL STUDIO PROFESSIONAL 2017, VISUAL STUDIO TEST PROFESSIONAL 2017 AND TRIAL EDITION
These license terms are an agreement between you and Microsoft Corporation (or based on where you live, one of its affiliates). They apply to the software named above. The terms also apply to any Microsoft services and updates for the software, except to the extent those have different terms.

BY USING THE SOFTWARE, YOU ACCEPT THESE TERMS. IF YOU DO NOT ACCEPT THEM, DO NOT USE THE SOFTWARE. INSTEAD, RETURN IT TO THE RETAILER FOR A REFUND OR CREDIT. If you cannot obtain a refund there, contact Microsoft about Microsoft’s refund policies. See www.microsoft.com/worldwide. In the United States and Canada, call (800) MICROSOFT or see www.microsoft.com/info/nareturns.htm.
TRIAL EDITION USE RIGHTS. If the software is a trial edition, this Section applies to your use of the trial edition.

A. GENERAL. You may use any number of copies of the trial edition on your devices. You may only use the trial edition for internal evaluation purposes, and only during the trial period. You may not distribute or deploy any applications you make with the trial edition to a production environment. You may run load tests of up to 250 virtual users during the trial period.

B. TRIAL PERIOD AND CONVERSION. The trial period lasts for 30 days after you install the trial edition, plus any permitted extension period. After the expiration of the trial period, the trial edition will stop running. You may extend the trial period an additional 90 days if you sign in to the software. You may not be able to access data used with the trial edition when it stops running. You may convert your trial rights at any time to the full-use rights described below by acquiring a valid full-use license.

C. DISCLAIMER OF WARRANTY. THE TRIAL EDITION IS LICENSED “AS-IS.” YOU BEAR THE RISK OF USING IT. MICROSOFT GIVES NO EXPRESS WARRANTIES, GUARANTEES OR CONDITIONS. TO THE EXTENT PERMITTED UNDER YOUR LOCAL LAWS, MICROSOFT EXCLUDES THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT.

FOR AUSTRALIA – YOU HAVE STATUTORY GUARANTEES UNDER THE AUSTRALIAN CONSUMER LAW AND NOTHING IN THESE TERMS IS INTENDED TO AFFECT THOSE RIGHTS.

D. SUPPORT. Because the trial edition is “as is,” we may not provide support services for it.

E. LIMITATIONS ON DAMAGES. YOU CAN RECOVER FROM MICROSOFT AND ITS SUPPLIERS ONLY DIRECT DAMAGES UP TO U.S. $5.00. YOU CANNOT RECOVER ANY OTHER DAMAGES, INCLUDING CONSEQUENTIAL, LOST PROFITS, SPECIAL, INDIRECT OR INCIDENTAL DAMAGES.

This limitation applies to (a) anything related to the trial version, services, content (including code) on third party Internet sites, or third party programs; and (b) claims for breach of contract, breach of warranty, guarantee or condition, strict liability, negligence, or other tort to the extent permitted by applicable law.

It also applies even if Microsoft knew or should have known about the possibility of the damages. The above limitation or exclusion may not apply to you because your country may not allow the exclusion or limitation of incidental, consequential or other damages.

FULL-USE LICENSE TERMS FOR THE SOFTWARE: When you acquire a valid license and either enter a product key or sign in to the software, the terms below apply. You may not share your product key or access credentials.

1. OVERVIEW.
   a. Software. The software includes development tools, applications and documentation.
   b. License Model. The software is licensed on a per user basis.

2. USE RIGHTS.
   a. General. One user may use copies of the software on your devices to develop and test applications. This includes using copies of the software on your own internal servers that remain fully dedicated to your own use. You may not, however, separate the components of the software and run those in a production environment, or on third party devices (except as otherwise stated in this agreement), or for any purpose other than developing and testing your applications. Running the software on Microsoft Azure requires a separate license.
   b. Workloads. These license terms apply to your use of the Workloads made available to you within the software, except to the extent a Workload or a Workload component comes with different terms.
   c. Demo Use. The use permitted above includes use of the software in demonstrating your applications.
   d. Backup copy. You may make one backup copy of the software, for reinstalling the software.

3. TERMS FOR SPECIFIC COMPONENTS.
   a. Utilities. The software contains items on the Utilities List at https://go.microsoft.com/fwlink/?linkid=823097. You may copy and install those items, if included with the software, onto your devices to debug and deploy your
applications and databases you developed with the software. Please note that Utilities are designed for temporary use, that Microsoft may not be able to patch or update Utilities separately from the rest of the software, and that some Utilities by their nature may make it possible for others to access the devices on which they are installed. As a result, you should delete all Utilities you have installed after you finish debugging or deploying your applications and databases. Microsoft is not responsible for any third party use or access of Utilities you install on any device.

b. Build Tools. You may copy and install files from the software onto your build devices, including physical devices and virtual machines or containers on those machines, whether on-premises or remote machines that are owned by you, hosted on Azure for you, or dedicated solely to your use (collectively, “Build Devices”). You and others in your organization may use these files on your Build Devices solely to compile, build, and verify applications or run quality or performance tests of those applications as part of the build process. For clarity, “applications” means applications developed by you and others in your organization who are each licensed to use the software.

c. Font Components. While the software is running, you may use its fonts to display and print content. You may only: (i) embed fonts in content as permitted by the embedding restrictions in the fonts; and (ii) temporarily download them to a printer or other output device to help print content.

d. Licenses for Other Components.

• Microsoft Platforms. The software may include components from Microsoft Windows; Microsoft Windows Server; Microsoft SQL Server; Microsoft Exchange; Microsoft Office; and Microsoft SharePoint. These components are governed by separate agreements and their own product support policies, as described in the Microsoft “Licenses” folder accompanying the software, except that, if separate license terms for those components are included in the associated installation directly, those license terms control.

• Developer resources. The software includes compilers, languages, runtimes, environments, and other resources. These components may be governed by separate agreements and have their own product support policies. A list of these other components is located at https://support.microsoft.com.

Third Party Components. The software may include third party components with separate legal notices or governed by other agreements, as may be described in the ThirdPartyNotices file(s) accompanying the software.

e. PACKAGE MANAGERS. The software includes package managers, like NuGet, that give you the option to download other Microsoft and third party software packages to use with your application. Those packages are under their own licenses, and not this agreement. Microsoft does not distribute, license or provide any warranties for any of the third party packages.

4. DISTRIBUTABLE CODE. The software contains code that you are permitted to distribute in applications you develop as described in this Section. (For this Section the term “distribution” also means deployment of your applications for third parties to access over the Internet.)

a. Right to Use and Distribute. The code and text files listed below are “Distributable Code.”

• REDIST.TXT Files. You may copy and distribute the object code form of code listed on the REDIST list located at https://go.microsoft.com/fwlink/?linkid=823097.

• Sample Code, Templates and Styles. You may copy, modify and distribute the source and object code form of code marked as “sample”, “template”, “simple styles” and “sketch styles”.

• Image Library. You may copy and distribute images, graphics and animations in the Image Library as described in the software documentation.

• Third Party Distribution. You may permit distributors of your applications to copy and distribute the Distributable Code as part of those applications.

b. Distribution Requirements. For any Distributable Code you distribute, you must:

• add significant primary functionality to it in your applications;

• require distributors and external end users to agree to terms that protect the Distributable Code at least as much as this agreement; and

• indemnify, defend, and hold harmless Microsoft from any claims, including attorneys’ fees, related to the distribution or use of your applications, except to the extent that any claim is based solely on the Distributable Code.
c. Distribution Restrictions. You may not:
• use Microsoft’s trademarks in your applications’ names or in a way that suggests your applications come from or are endorsed by Microsoft; or
• modify or distribute the source code of any Distributable Code so that any part of it becomes subject to an Excluded License. An Excluded License is one that requires, as a condition of use, modification or distribution of code, that (i) it be disclosed or distributed in source code form; or (ii) others have the right to modify it.

5. DATA.

a. Data Collection. The software may collect information about you and your use of the software, and send that to Microsoft. Microsoft may use this information to provide services and improve our products and services. You may opt-out of many of these scenarios, but not all, as described in the product documentation. There are also some features in the software that may enable you and Microsoft to collect data from users of your applications. If you use these features, you must comply with applicable law, including providing appropriate notices to users of your applications together with Microsoft’s privacy statement. Our privacy statement is located at https://go.microsoft.com/fwlink/?LinkId=824704. You can learn more about data collection and use in the help documentation and our privacy statement. Your use of the software operates as your consent to these practices.

b. Processing of Personal Data. To the extent Microsoft is a processor or subprocessor of personal data in connection with the software, Microsoft makes the commitments in the European Union General Data Protection Regulation Terms of the Online Services Terms to all customers effective May 25, 2018, at http://go.microsoft.com/fwlink/?LinkId=9840733.

6. SCOPE OF LICENSE. The software is licensed, not sold. This agreement only gives you some rights to use the software. Microsoft reserves all other rights. Unless applicable law gives you more rights despite this limitation, you may use the software only as expressly permitted in this agreement. In doing so, you must comply with any technical limitations in the software that only allow you to use it in certain ways. You may not
• work around any technical limitations in the software;
• reverse engineer, decompile or disassemble the software, or otherwise attempt to derive the source code for the software, except and to the extent required by third party licensing terms governing use of certain open source components that may be included in the software;
• remove, minimize, block or modify any notices of Microsoft or its suppliers in the software;
• use the software in any way that is against the law;

7. DOCUMENTATION. Any person that has valid access to your computer or internal network may copy and use the documentation for your internal, reference purposes.

8. NOT FOR RESALE SOFTWARE. You may not sell software marked as “NFR” or “Not for Resale.”

9. RIGHTS TO USE OTHER VERSIONS AND LOWER EDITIONS. You may use the software and any prior version on any device. You may create, store, install, run, or access in place of the version licensed, a copy or instance of a prior version, different permitted language version, or lower edition.

10. PROOF OF LICENSE. If you acquired the software on a disc or other media, your proof of license is the Microsoft certificate of authenticity label, the accompanying product key, and your receipt. If you purchased an online copy of the software, your proof of license is the Microsoft product key you received with your purchase and your receipt and/or being able to access the software service through your Microsoft account. To identify genuine Microsoft software, see www.howtotell.com.

11. TRANSFER TO A THIRD PARTY. If you are a valid licensee of the software, you may transfer it and this agreement directly to another party. Before the transfer, that party must agree that this agreement applies to the transfer and use of the software. The transfer must include the software, genuine Microsoft product key, and (if applicable) the Proof of License label. The transferor must uninstall all copies of the software after transferring it from the device. The transferor may not retain any copies of the genuine Microsoft product key to be transferred, and may only retain copies of the software if otherwise licensed to do so. If you have acquired a non-perpetual license to use the software or if the software is marked Not for Resale you may not transfer the software or the
12. EXPORT RESTRICTIONS. You must comply with all domestic and international export laws and regulations that apply to the software, which include restrictions on destinations, end users, and end use. For further information on export restrictions, visit www.microsoft.com/exporting.

13. SUPPORT. Microsoft provides support for the software as described at https://support.microsoft.com.

14. ENTIRE AGREEMENT. This agreement (including the warranty below), and the terms for supplements, updates, Internet-based services and support services, are the entire agreement for the software and support services.

15. APPLICABLE LAW. If you acquired the software in the United States, Washington State law applies to interpretation of and claims for breach of this agreement, and the laws of the state where you live apply to all other claims. If you acquire the software in any other country, its laws apply.

16. CONSUMER RIGHTS; REGIONAL VARIATIONS. This agreement describes certain legal rights. You may have other rights, including consumer rights, under the laws of your state or country. Separate and apart from your relationship with Microsoft, you may also have rights with respect to the party from which you acquired the software. This agreement does not change those other rights if the laws of your state or country do not permit it to do so. For example, if you acquired the software in one of the below regions, or if mandatory country law applies, then the following provisions apply to you:

a) Australia. References to “Limited Warranty” mean the express warranty provided by Microsoft or the manufacturer or installer. This warranty is in addition to other rights and remedies you may have under law, including your rights and remedies under the statutory guarantees in the Australian Consumer Law. In this section, “goods” refers to the software for which Microsoft or the manufacturer or installer provides the express warranty. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

b) Canada. If you acquired this software in Canada, you may stop receiving updates by turning off the automatic update feature, disconnecting your device from the Internet (if and when you re-connect to the Internet, however, the software will resume checking for and installing updates), or uninstalling the software. The product documentation, if any, may also specify how to turn off updates for your specific device or software.

c) Germany and Austria.

(i) Warranty. The properly licensed software will perform substantially as described in any Microsoft materials that accompany it. However, Microsoft gives no contractual guarantee in relation to the software.

(ii) Limitation of Liability. In case of intentional conduct, gross negligence, claims based on the Product Liability Act, and death or personal or physical injury, Microsoft is liable according to the statutory law. Subject to the foregoing clause (ii), Microsoft will only be liable for slight negligence if Microsoft is in breach of such material contractual obligations, the fulfillment of which facilitate the due performance of this agreement, the breach of which would endanger the purpose of this agreement and the compliance with which a party may constantly trust in (so-called "cardinal obligations"). In other cases of slight negligence, Microsoft will not be liable for slight negligence.

17. LIMITATION ON AND EXCLUSION OF DAMAGES. YOU CAN RECOVER FROM MICROSOFT AND ITS SUPPLIERS ONLY DIRECT DAMAGES UP TO THE AMOUNT YOU PAID FOR THE SOFTWARE. YOU CANNOT RECOVER ANY OTHER DAMAGES, INCLUDING CONSEQUENTIAL, LOST PROFITS, SPECIAL, INDIRECT OR INCIDENTAL DAMAGES.

This limitation applies to (a) anything related to the software, services, content (including code) on third party Internet sites, or third party applications; and (b) claims for breach of contract, breach of warranty, guarantee or condition, strict liability, negligence, or other tort to the extent permitted by applicable law.

It also applies even if Microsoft knew or should have known about the possibility of the damages. The above limitation or exclusion may not apply to you because your state or country may not allow the exclusion or limitation of incidental, consequential or other damages.
LIMITED WARRANTY
A. LIMITED WARRANTY. If you follow the instructions, the software will perform substantially as described in
the Microsoft materials that you receive in or with the software.
References to “limited warranty” are references to the express warranty provided by Microsoft. This warranty is
given in addition to other rights and remedies you may have under law, including your rights and remedies in
accordance with the statutory guarantees under local Consumer Law.
B. TERM OF WARRANTY; WARRANTY RECIPIENT; LENGTH OF ANY IMPLIED WARRANTIES. THE
LIMITED WARRANTY COVERS THE SOFTWARE FOR ONE YEAR AFTER ACQUIRED BY THE FIRST
USER. IF YOU RECEIVE SUPPLEMENTS, UPDATES, OR REPLACEMENT SOFTWARE DURING THAT
YEAR, THEY WILL BE COVERED FOR THE REMAINDER OF THE WARRANTY OR 30 DAYS,
WHICHEVER IS LONGER. If the first user transfers the software, the remainder of the warranty will apply to the
recipient.
TO THE EXTENT PERMITTED BY LAW, ANY IMPLIED WARRANTIES, GUARANTEES OR CONDITIONS
LAST ONLY DURING THE TERM OF THE LIMITED WARRANTY. Some states do not allow limitations on
how long an implied warranty lasts, so these limitations may not apply to you. They also might not apply to you
because some countries may not allow limitations on how long an implied warranty, guarantee or condition lasts.
C. EXCLUSIONS FROM WARRANTY. This warranty does not cover problems caused by your acts (or failures to
act), the acts of others, or events beyond Microsoft’s reasonable control.
D. REMEDY FOR BREACH OF WARRANTY. MICROSOFT WILL REPAIR OR REPLACE THE SOFTWARE
AT NO CHARGE. IF MICROSOFT CANNOT REPAIR OR REPLACE IT, MICROSOFT WILL REFUND THE
AMOUNT SHOWN ON YOUR RECEIPT FOR THE SOFTWARE. IT WILL ALSO REPAIR OR REPLACE
SUPPLEMENTS, UPDATES AND REPLACEMENT SOFTWARE AT NO CHARGE. IF MICROSOFT
CANNOT REPAIR OR REPLACE THEM, IT WILL REFUND THE AMOUNT YOU PAID FOR THEM, IF
ANY. YOU MUST UNINSTALL THE SOFTWARE AND RETURN ANY MEDIA AND OTHER ASSOCIATED
MATERIALS TO MICROSOFT WITH PROOF OF PURCHASE TO OBTAIN A REFUND. THESE ARE YOUR
ONLY REMEDIES FOR BREACH OF THE LIMITED WARRANTY.
E. CONSUMER RIGHTS NOT AFFECTED. YOU MAY HAVE ADDITIONAL CONSUMER RIGHTS UNDER
YOUR LOCAL LAWS, WHICH THIS AGREEMENT CANNOT CHANGE.
F. WARRANTY PROCEDURES. You need proof of purchase for warranty service.
1. United States and Canada. For warranty service or information about how to obtain a refund for software acquired
in the United States and Canada, contact Microsoft at:
• (800) MICROSOFT;
• Microsoft Customer Service and Support, One Microsoft Way, Redmond, WA 98052-6399; or
• visit (aka.ms/nareturns).
2. Europe, Middle East, and Africa. If you acquired the software in Europe, the Middle East, or Africa, Microsoft
Ireland Operations Limited makes this limited warranty. To make a claim under this warranty, you should contact
either:
• Microsoft Ireland Operations Limited, Customer Care Centre, Atrium Building Block B, Carmanhall Road,
Sandyford Industrial Estate, Dublin 18, Ireland; or
• the Microsoft affiliate serving your country (see aka.ms/msoffices).
3. Australia. For Warranty Services and to claim expenses in relation to the warranty (if applicable) for software
acquired in Australia, contact Microsoft at:
• 13 20 58; or
• Microsoft Pty Ltd, 1 Epping Road, North Ryde NSW 2113, Australia.
4. Outside the United States, Canada, Europe, Middle East, Africa, and Australia. If you acquired the software
outside the United States, Canada, Europe, the Middle East, Africa, and Australia, contact the Microsoft affiliate
serving your country (see aka.ms/msoffices).

G. NO OTHER WARRANTIES. THE LIMITED WARRANTY IS THE ONLY DIRECT WARRANTY FROM MICROSOFT. MICROSOFT GIVES NO OTHER EXPRESS WARRANTIES, GUARANTEES OR CONDITIONS. WHERE ALLOWED BY YOUR LOCAL LAWS, MICROSOFT EXCLUDES IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. If your local laws give you any implied warranties, guarantees or conditions, despite this exclusion, your remedies are described in the Remedy for Breach of Warranty clause above, to the extent permitted by your local laws.

FOR AUSTRALIA ONLY. References to “Limited Warranty” are references to the warranty provided by Microsoft. This warranty is given in addition to other rights and remedies you may have under law, including your rights and remedies in accordance with the statutory guarantees under the Australian Consumer Law. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. Goods presented for repair may be replaced by refurbished goods of the same type rather than being replaced. Refurbished parts may be used to repair the goods.

H. LIMITATION ON AND EXCLUSION OF DAMAGES FOR BREACH OF WARRANTY. THE LIMITATION ON AND EXCLUSION OF DAMAGES CLAUSE ABOVE APPLIES TO BREACHES OF THIS LIMITED WARRANTY.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE. YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM COUNTRY TO COUNTRY.

EULA ID: VS2017_ENT_PRO_TRIAL_RTW.2_ENU

---

1.123 zlib 1.2.11 r3

1.123.1 Available under license:

Boost Software License - Version 1.0 - August 17th, 2003

Permission is hereby granted, free of charge, to any person or organization obtaining a copy of the software and accompanying documentation covered by this license (the "Software") to use, reproduce, display, distribute, execute, and transmit the Software, and to prepare derivative works of the Software, and to permit third-parties to whom the Software is furnished to do so, all subject to the following:

The copyright notices in the Software and this entire statement, including the above license grant, this restriction and the following disclaimer, must be included in all copies of the Software, in whole or in part, and all derivative works of the Software, unless such copies or derivative works are solely in the form of machine-executable object code generated by a source language processor.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
FITNESS FOR A PARTICULAR PURPOSE, TITLE AND NON-INFRINGEMENT. IN NO EVENT SHALL THE COPYRIGHT HOLDERS OR ANYONE DISTRIBUTING THE SOFTWARE BE LIABLE FOR ANY DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

1.124 vim 8.0.1763-15.el8

1.125 gawk 5.0.1

1.125.1 Available under license:

GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007

Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

Preamble

The GNU General Public License is a free, copyleft license for
software and other kinds of works.

The licenses for most software and other practical works are designed
to take away your freedom to share and change the works. By contrast,
the GNU General Public License is intended to guarantee your freedom to
share and change all versions of a program--to make sure it remains free
software for all its users. We, the Free Software Foundation, use the
GNU General Public License for most of our software; it applies also to
any other work released this way by its authors. You can apply it to
your programs, too.

When we speak of free software, we are referring to freedom, not
price. Our General Public Licenses are designed to make sure that you
have the freedom to distribute copies of free software (and charge for
them if you wish), that you receive source code or can get it if you
want it, that you can change the software or use pieces of it in new
free programs, and that you know you can do these things.

To protect your rights, we need to prevent others from denying you
these rights or asking you to surrender the rights. Therefore, you have
certain responsibilities if you distribute copies of the software, or if
you modify it: responsibilities to respect the freedom of others.

For example, if you distribute copies of such a program, whether
gratis or for a fee, you must pass on to the recipients the same freedoms that you received. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

Developers that use the GNU GPL protect your rights with two steps: (1) assert copyright on the software, and (2) offer you this License giving you legal permission to copy, distribute and/or modify it.

For the developers' and authors' protection, the GPL clearly explains that there is no warranty for this free software. For both users' and authors' sake, the GPL requires that modified versions be marked as changed, so that their problems will not be attributed erroneously to authors of previous versions.

Some devices are designed to deny users access to install or run modified versions of the software inside them, although the manufacturer can do so. This is fundamentally incompatible with the aim of protecting users' freedom to change the software. The systematic pattern of such abuse occurs in the area of products for individuals to use, which is precisely where it is most unacceptable. Therefore, we have designed this version of the GPL to prohibit the practice for those products. If such problems arise substantially in other domains, we stand ready to extend this provision to those domains in future versions of the GPL, as needed to protect the freedom of users.

Finally, every program is threatened constantly by software patents. States should not allow patents to restrict development and use of software on general-purpose computers, but in those that do, we wish to avoid the special danger that patents applied to a free program could make it effectively proprietary. To prevent this, the GPL assures that patents cannot be used to render the program non-free.

The precise terms and conditions for copying, distribution and modification follow.

TERMS AND CONDITIONS

0. Definitions.

"This License" refers to version 3 of the GNU General Public License.

"Copyright" also means copyright-like laws that apply to other kinds of works, such as semiconductor masks.

"The Program" refers to any copyrightable work licensed under this License. Each licensee is addressed as "you". "Licensees" and "recipients" may be individuals or organizations.
To "modify" a work means to copy from or adapt all or part of the work in a fashion requiring copyright permission, other than the making of an exact copy. The resulting work is called a "modified version" of the earlier work or a work "based on" the earlier work.

A "covered work" means either the unmodified Program or a work based on the Program.

To "propagate" a work means to do anything with it that, without permission, would make you directly or secondarily liable for infringement under applicable copyright law, except executing it on a computer or modifying a private copy. Propagation includes copying, distribution (with or without modification), making available to the public, and in some countries other activities as well.

To "convey" a work means any kind of propagation that enables other parties to make or receive copies. Mere interaction with a user through a computer network, with no transfer of a copy, is not conveying.

An interactive user interface displays "Appropriate Legal Notices" to the extent that it includes a convenient and prominently visible feature that (1) displays an appropriate copyright notice, and (2) tells the user that there is no warranty for the work (except to the extent that warranties are provided), that licensees may convey the work under this License, and how to view a copy of this License. If the interface presents a list of user commands or options, such as a menu, a prominent item in the list meets this criterion.


The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

A "Standard Interface" means an interface that either is an official standard defined by a recognized standards body, or, in the case of interfaces specified for a particular programming language, one that is widely used among developers working in that language.

The "System Libraries" of an executable work include anything, other than the work as a whole, that (a) is included in the normal form of packaging a Major Component, but which is not part of that Major Component, and (b) serves only to enable use of the work with that Major Component, or to implement a Standard Interface for which an implementation is available to the public in source code form. A "Major Component", in this context, means a major essential component (kernel, window system, and so on) of the specific operating system.
(if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

The "Corresponding Source" for a work in object code form means all the source code needed to generate, install, and (for an executable work) run the object code and to modify the work, including scripts to control those activities. However, it does not include the work's System Libraries, or general-purpose tools or generally available free programs which are used unmodified in performing those activities but which are not part of the work. For example, Corresponding Source includes interface definition files associated with source files for the work, and the source code for shared libraries and dynamically linked subprograms that the work is specifically designed to require, such as by intimate data communication or control flow between those subprograms and other parts of the work.

The Corresponding Source need not include anything that users can regenerate automatically from other parts of the Corresponding Source.

The Corresponding Source for a work in source code form is that same work.

2. Basic Permissions.

All rights granted under this License are granted for the term of copyright on the Program, and are irrevocable provided the stated conditions are met. This License explicitly affirms your unlimited permission to run the unmodified Program. The output from running a covered work is covered by this License only if the output, given its content, constitutes a covered work. This License acknowledges your rights of fair use or other equivalent, as provided by copyright law.

You may make, run and propagate covered works that you do not convey, without conditions so long as your license otherwise remains in force. You may convey covered works to others for the sole purpose of having them make modifications exclusively for you, or provide you with facilities for running those works, provided that you comply with the terms of this License in conveying all material for which you do not control copyright. Those thus making or running the covered works for you must do so exclusively on your behalf, under your direction and control, on terms that prohibit them from making any copies of your copyrighted material outside their relationship with you.

Conveying under any other circumstances is permitted solely under the conditions stated below. Sublicensing is not allowed; section 10 makes it unnecessary.
3. Protecting Users' Legal Rights From Anti-Circumvention Law.

No covered work shall be deemed part of an effective technological measure under any applicable law fulfilling obligations under article 11 of the WIPO copyright treaty adopted on 20 December 1996, or similar laws prohibiting or restricting circumvention of such measures.

When you convey a covered work, you waive any legal power to forbid circumvention of technological measures to the extent such circumvention is effected by exercising rights under this License with respect to the covered work, and you disclaim any intention to limit operation or modification of the work as a means of enforcing, against the work's users, your or third parties' legal rights to forbid circumvention of technological measures.


You may convey verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice; keep intact all notices stating that this License and any non-permissive terms added in accord with section 7 apply to the code; keep intact all notices of the absence of any warranty; and give all recipients a copy of this License along with the Program.

You may charge any price or no price for each copy that you convey, and you may offer support or warranty protection for a fee.

5. Conveying Modified Source Versions.

You may convey a work based on the Program, or the modifications to produce it from the Program, in the form of source code under the terms of section 4, provided that you also meet all of these conditions:

a) The work must carry prominent notices stating that you modified it, and giving a relevant date.

b) The work must carry prominent notices stating that it is released under this License and any conditions added under section 7. This requirement modifies the requirement in section 4 to "keep intact all notices".

c) You must license the entire work, as a whole, under this License to anyone who comes into possession of a copy. This License will therefore apply, along with any applicable section 7 additional terms, to the whole of the work, and all its parts, regardless of how they are packaged. This License gives no
permission to license the work in any other way, but it does not
invalidate such permission if you have separately received it.

d) If the work has interactive user interfaces, each must display
Appropriate Legal Notices; however, if the Program has interactive
interfaces that do not display Appropriate Legal Notices, your
work need not make them do so.

A compilation of a covered work with other separate and independent
works, which are not by their nature extensions of the covered work,
and which are not combined with it such as to form a larger program,
in or on a volume of a storage or distribution medium, is called an
"aggregate" if the compilation and its resulting copyright are not
used to limit the access or legal rights of the compilation's users
beyond what the individual works permit. Inclusion of a covered work
in an aggregate does not cause this License to apply to the other
parts of the aggregate.

6. Conveying Non-Source Forms.

You may convey a covered work in object code form under the terms
of sections 4 and 5, provided that you also convey the
machine-readable Corresponding Source under the terms of this License,
in one of these ways:

a) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by the
Corresponding Source fixed on a durable physical medium
customarily used for software interchange.

b) Convey the object code in, or embodied in, a physical product
(including a physical distribution medium), accompanied by a
written offer, valid for at least three years and valid for as
long as you offer spare parts or customer support for that product
model, to give anyone who possesses the object code either (1) a
copy of the Corresponding Source for all the software in the
product that is covered by this License, on a durable physical
medium customarily used for software interchange, for a price no
more than your reasonable cost of physically performing this
conveying of source, or (2) access to copy the
Corresponding Source from a network server at no charge.

c) Convey individual copies of the object code with a copy of the
written offer to provide the Corresponding Source. This
alternative is allowed only occasionally and noncommercially, and
only if you received the object code with such an offer, in accord
with subsection 6b.
d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

e) Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

A separable portion of the object code, whose source code is excluded from the Corresponding Source as a System Library, need not be included in conveying the object code work.

A "User Product" is either (1) a "consumer product", which means any tangible personal property which is normally used for personal, family, or household purposes, or (2) anything designed or sold for incorporation into a dwelling. In determining whether a product is a consumer product, doubtful cases shall be resolved in favor of coverage. For a particular product received by a particular user, "normally used" refers to a typical or common use of that class of product, regardless of the status of the particular user or of the way in which the particular user actually uses, or expects or is expected to use, the product. A product is a consumer product regardless of whether the product has substantial commercial, industrial or non-consumer uses, unless such uses represent the only significant mode of use of the product.

"Installation Information" for a User Product means any methods, procedures, authorization keys, or other information required to install and execute modified versions of a covered work in that User Product from a modified version of its Corresponding Source. The information must suffice to ensure that the continued functioning of the modified object code is in no case prevented or interfered with solely because modification has been made.

If you convey an object code work under this section in, or with, or specifically for use in, a User Product, and the conveying occurs as part of a transaction in which the right of possession and use of the User Product is transferred to the recipient in perpetuity or for a fixed term (regardless of how the transaction is characterized), the
Corresponding Source conveyed under this section must be accompanied by the Installation Information. But this requirement does not apply if neither you nor any third party retains the ability to install modified object code on the User Product (for example, the work has been installed in ROM).

The requirement to provide Installation Information does not include a requirement to continue to provide support service, warranty, or updates for a work that has been modified or installed by the recipient, or for the User Product in which it has been modified or installed. Access to a network may be denied when the modification itself materially and adversely affects the operation of the network or violates the rules and protocols for communication across the network.

Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

7. Additional Terms.

"Additional permissions" are terms that supplement the terms of this License by making exceptions from one or more of its conditions. Additional permissions that are applicable to the entire Program shall be treated as though they were included in this License, to the extent that they are valid under applicable law. If additional permissions apply only to part of the Program, that part may be used separately under those permissions, but the entire Program remains governed by this License without regard to the additional permissions.

When you convey a copy of a covered work, you may at your option remove any additional permissions from that copy, or from any part of it. (Additional permissions may be written to require their own removal in certain cases when you modify the work.) You may place additional permissions on material, added by you to a covered work, for which you have or can give appropriate copyright permission.

Notwithstanding any other provision of this License, for material you add to a covered work, you may (if authorized by the copyright holders of that material) supplement the terms of this License with terms:

a) Disclaiming warranty or limiting liability differently from the terms of sections 15 and 16 of this License; or

b) Requiring preservation of specified reasonable legal notices or author attributions in that material or in the Appropriate Legal Notices displayed by works containing it; or
c) Prohibiting misrepresentation of the origin of that material, or requiring that modified versions of such material be marked in reasonable ways as different from the original version; or

d) Limiting the use for publicity purposes of names of licensors or authors of the material; or

e) Declining to grant rights under trademark law for use of some trade names, trademarks, or service marks; or

f) Requiring indemnification of licensors and authors of that material by anyone who conveys the material (or modified versions of it) with contractual assumptions of liability to the recipient, for any liability that these contractual assumptions directly impose on those licensors and authors.

All other non-permissive additional terms are considered “further restrictions” within the meaning of section 10. If the Program as you received it, or any part of it, contains a notice stating that it is governed by this License along with a term that is a further restriction, you may remove that term. If a license document contains a further restriction but permits relicensing or conveying under this License, you may add to a covered work material governed by the terms of that license document, provided that the further restriction does not survive such relicensing or conveying.

If you add terms to a covered work in accord with this section, you must place, in the relevant source files, a statement of the additional terms that apply to those files, or a notice indicating where to find the applicable terms.

Additional terms, permissive or non-permissive, may be stated in the form of a separately written license, or stated as exceptions; the above requirements apply either way.

8. Termination.

You may not propagate or modify a covered work except as expressly provided under this License. Any attempt otherwise to propagate or modify it is void, and will automatically terminate your rights under this License (including any patent licenses granted under the third paragraph of section 11).

However, if you cease all violation of this License, then your license from a particular copyright holder is reinstated (a) provisionally, unless and until the copyright holder explicitly and finally terminates your license, and (b) permanently, if the copyright
holder fails to notify you of the violation by some reasonable means prior to 60 days after the cessation.

Moreover, your license from a particular copyright holder is reinstated permanently if the copyright holder notifies you of the violation by some reasonable means, this is the first time you have received notice of violation of this License (for any work) from that copyright holder, and you cure the violation prior to 30 days after your receipt of the notice.

Termination of your rights under this section does not terminate the licenses of parties who have received copies or rights from you under this License. If your rights have been terminated and not permanently reinstated, you do not qualify to receive new licenses for the same material under section 10.


You are not required to accept this License in order to receive or run a copy of the Program. Ancillary propagation of a covered work occurring solely as a consequence of using peer-to-peer transmission to receive a copy likewise does not require acceptance. However, nothing other than this License grants you permission to propagate or modify any covered work. These actions infringe copyright if you do not accept this License. Therefore, by modifying or propagating a covered work, you indicate your acceptance of this License to do so.

10. Automatic Licensing of Downstream Recipients.

Each time you convey a covered work, the recipient automatically receives a license from the original licensors, to run, modify and propagate that work, subject to this License. You are not responsible for enforcing compliance by third parties with this License.

An "entity transaction" is a transaction transferring control of an organization, or substantially all assets of one, or subdividing an organization, or merging organizations. If propagation of a covered work results from an entity transaction, each party to that transaction who receives a copy of the work also receives whatever licenses to the work the party's predecessor in interest had or could give under the previous paragraph, plus a right to possession of the Corresponding Source of the work from the predecessor in interest, if the predecessor has it or can get it with reasonable efforts.

You may not impose any further restrictions on the exercise of the rights granted or affirmed under this License. For example, you may not impose a license fee, royalty, or other charge for exercise of rights granted under this License, and you may not initiate litigation
including a cross-claim or counterclaim in a lawsuit) alleging that any patent claim is infringed by making, using, selling, offering for sale, or importing the Program or any portion of it.

11. Patents.

A "contributor" is a copyright holder who authorizes use under this License of the Program or a work on which the Program is based. The work thus licensed is called the contributor's "contributor version".

A contributor’s "essential patent claims" are all patent claims owned or controlled by the contributor, whether already acquired or hereafter acquired, that would be infringed by some manner, permitted by this License, of making, using, or selling its contributor version, but do not include claims that would be infringed only as a consequence of further modification of the contributor version. For purposes of this definition, "control" includes the right to grant patent sublicenses in a manner consistent with the requirements of this License.

Each contributor grants you a non-exclusive, worldwide, royalty-free patent license under the contributor’s essential patent claims, to make, use, sell, offer for sale, import and otherwise run, modify and propagate the contents of its contributor version.

In the following three paragraphs, a "patent license" is any express agreement or commitment, however denominated, not to enforce a patent (such as an express permission to practice a patent or covenant not to sue for patent infringement). To "grant" such a patent license to a party means to make such an agreement or commitment not to enforce a patent against the party.

If you convey a covered work, knowingly relying on a patent license, and the Corresponding Source of the work is not available for anyone to copy, free of charge and under the terms of this License, through a publicly available network server or other readily accessible means, then you must either (1) cause the Corresponding Source to be so available, or (2) arrange to deprive yourself of the benefit of the patent license for this particular work, or (3) arrange, in a manner consistent with the requirements of this License, to extend the patent license to downstream recipients. "Knowingly relying" means you have actual knowledge that, but for the patent license, your conveying the covered work in a country, or your recipient’s use of the covered work in a country, would infringe one or more identifiable patents in that country that you have reason to believe are valid.

If, pursuant to or in connection with a single transaction or arrangement, you convey, or propagate by procuring conveyance of, a
covered work, and grant a patent license to some of the parties receiving the covered work authorizing them to use, propagate, modify or convey a specific copy of the covered work, then the patent license you grant is automatically extended to all recipients of the covered work and works based on it.

A patent license is "discriminatory" if it does not include within the scope of its coverage, prohibits the exercise of, or is conditioned on the non-exercise of one or more of the rights that are specifically granted under this License. You may not convey a covered work if you are a party to an arrangement with a third party that is in the business of distributing software, under which you make payment to the third party based on the extent of your activity of conveying the work, and under which the third party grants, to any of the parties who would receive the covered work from you, a discriminatory patent license (a) in connection with copies of the covered work conveyed by you (or copies made from those copies), or (b) primarily for and in connection with specific products or compilations that contain the covered work, unless you entered into that arrangement, or that patent license was granted, prior to 28 March 2007.

Nothing in this License shall be construed as excluding or limiting any implied license or other defenses to infringement that may otherwise be available to you under applicable patent law.


If conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot convey a covered work so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not convey it at all. For example, if you agree to terms that obligate you to collect a royalty for further conveying from those to whom you convey the Program, the only way you could satisfy both those terms and this License would be to refrain entirely from conveying the Program.

13. Use with the GNU Affero General Public License.

Notwithstanding any other provision of this License, you have permission to link or combine any covered work with a work licensed under version 3 of the GNU Affero General Public License into a single combined work, and to convey the resulting work. The terms of this License will continue to apply to the part which is the covered work, but the special requirements of the GNU Affero General Public License, section 13, concerning interaction through a network will apply to the combination as such.
14. Revised Versions of this License.

The Free Software Foundation may publish revised and/or new versions of the GNU General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies that a certain numbered version of the GNU General Public License "or any later version" applies to it, you have the option of following the terms and conditions either of that numbered version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of the GNU General Public License, you may choose any version ever published by the Free Software Foundation.

If the Program specifies that a proxy can decide which future versions of the GNU General Public License can be used, that proxy's public statement of acceptance of a version permanently authorizes you to choose that version for the Program.

Later license versions may give you additional or different permissions. However, no additional obligations are imposed on any author or copyright holder as a result of your choosing to follow a later version.

15. Disclaimer of Warranty.

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. Limitation of Liability.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MODIFIES AND/OR CONVEYS THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
17. Interpretation of Sections 15 and 16.

If the disclaimer of warranty and limitation of liability provided above cannot be given local legal effect according to their terms, reviewing courts shall apply local law that most closely approximates an absolute waiver of all civil liability in connection with the Program, unless a warranty or assumption of liability accompanies a copy of the Program in return for a fee.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively state the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software: you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation, either version 3 of the License, or (at your option) any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

<program> Copyright (C) <year> <name of author>
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it under certain conditions; type `show c' for details.
The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

You should also get your employer (if you work as a programmer) or school, if any, to sign a "copyright disclaimer" for the program, if necessary. For more information on this, and how to apply and follow the GNU GPL, see <http://www.gnu.org/licenses/>.

The GNU General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Lesser General Public License instead of this License. But first, please read <http://www.gnu.org/philosophy/why-not-lgpl.html>.

GNU LIBRARY GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1991 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Library General Public License, applies to some specially designated Free Software Foundation software, and to any other libraries whose authors decide to use it. You can use it for your libraries, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights.
These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link a program with the library, you must provide complete object files to the recipients so that they can relink them with the library, after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

Our method of protecting your rights has two steps: (1) copyright the library, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the library.

Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We
concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the
users of those programs of all benefit from the free status of the
libraries themselves. This Library General Public License is intended to
permit developers of non-free programs to use free libraries, while
preserving your freedom as a user of such programs to change the free
libraries that are incorporated in them. (We have not seen how to achieve
this as regards changes in header files, but we have achieved it as regards
changes in the actual functions of the Library.) The hope is that this
will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and
modification follow. Pay close attention to the difference between a
"work based on the library" and a "work that uses the library". The
former contains code derived from the library, while the latter only
works together with the library.

Note that it is possible for a library to be covered by the ordinary
General Public License rather than by this special one.

GNU LIBRARY GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library which
contains a notice placed by the copyright holder or other authorized
party saying it may be distributed under the terms of this Library
General Public License (also called "this License"). Each licensee is
addressed as "you".

A "library" means a collection of software functions and/or data
prepared so as to be conveniently linked with application programs
(which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work
which has been distributed under these terms. A "work based on the
Library" means either the Library or any derivative work under
copyright law: that is to say, a work containing the Library or a
portion of it, either verbatim or with modifications and/or translated
straightforwardly into another language. (Hereinafter, translation is
included without limitation in the term "modification").

"Source code" for a work means the preferred form of the work for
making modifications to it. For a library, complete source code means
all the source code for all modules it contains, plus any associated
interface definition files, plus the scripts used to control compilation
and installation of the library.
Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

   a) The modified work must itself be a software library.

   b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

   c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

   d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

   (For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)
These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not
compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:
a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

    a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library
facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.
It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Library General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO
WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Appendix: How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>  
Copyright (C) <year>  <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Library General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Library General Public License for more details.
You should have received a copy of the GNU Library General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

1.126 libusb 1.0.22
1.126.1 Available under license:

GNU LESSER GENERAL PUBLIC LICENSE
Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.
When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using
a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License").
Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices
stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in
These notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)
Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the
10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients’ exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus
excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
1.127 attr 2.4.48-3.el8

1.127.1 Available under license:

Most components of the "attr" package are licensed under
Version 2.1 of the GNU Lesser General Public License (see below).below.

Some components (as annotated in the source) are licensed
under Version 2 of the GNU General Public License (see COPYING).

GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less
of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a
portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification").

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or
table, the facility still operates, and performs whatever part of
its purpose remains meaningful.

(For example, a function in a library to compute square roots has
a purpose that is entirely well-defined independent of the
application. Therefore, Subsection 2d requires that any
application-supplied function or table used by this function must
be optional: if the application does not supply it, the square
root function must still compute square roots.)

These requirements apply to the modified work as a whole. If
identifiable sections of that work are not derived from the Library,
and can be reasonably considered independent and separate works in
themselves, then this License, and its terms, do not apply to those
sections when you distribute them as separate works. But when you
distribute the same sections as part of a whole which is a work based
on the Library, the distribution of the whole must be on the terms of
this License, whose permissions for other licensees extend to the
entire whole, and thus to each and every part regardless of who wrote
it.

Thus, it is not the intent of this section to claim rights or contest
your rights to work written entirely by you; rather, the intent is to
exercise the right to control the distribution of derivative or
collective works based on the Library.

In addition, mere aggregation of another work not based on the Library
with the Library (or with a work based on the Library) on a volume of
a storage or distribution medium does not bring the other work under
the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public
License instead of this License to a given copy of the Library. To do
this, you must alter all the notices that refer to this License, so
that they refer to the ordinary GNU General Public License, version 2,
instead of to this License. (If a newer version than version 2 of the
ordinary GNU General Public License has appeared, then you can specify
that version instead if you wish.) Do not make any other change in
these notices.

Once this change is made in a given copy, it is irreversible for
that copy, so the ordinary GNU General Public License applies to all
subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of
the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or
derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse
engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on
which the executable runs, unless that component itself accompanies
the executable.

It may happen that this requirement contradicts the license
restrictions of other proprietary libraries that do not normally
accompany the operating system. Such a contradiction means you cannot
use both them and the Library together in an executable that you
distribute.

7. You may place library facilities that are a work based on the
Library side-by-side in a single library together with other library
facilities not covered by this License, and distribute such a combined
library, provided that the separate distribution of the work based on
the Library and of the other library facilities is otherwise
permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work
based on the Library, uncombined with any other library
facilities. This must be distributed under the terms of the
Sections above.

b) Give prominent notice with the combined library of the fact
that part of it is a work based on the Library, and explaining
where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute
the Library except as expressly provided under this License. Any
attempt otherwise to copy, modify, sublicense, link with, or
distribute the Library is void, and will automatically terminate your
rights under this License. However, parties who have received copies,
or rights, from you under this License will not have their licenses
terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not
signed it. However, nothing else grants you permission to modify or
distribute the Library or its derivative works. These actions are
prohibited by law if you do not accept this License. Therefore, by
modifying or distributing the Library (or any work based on the
Library), you indicate your acceptance of this License to do so, and
all its terms and conditions for copying, distributing or modifying
the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the
Library), the recipient automatically receives a license from the
original licensor to copy, distribute, link with or modify the Library
subject to these terms and conditions. You may not impose any further
restrictions on the recipients' exercise of the rights granted herein.
You are not responsible for enforcing compliance by third parties with
11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and
“any later version”, you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).
To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year>  <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!
Most components of the "attr" package are licensed under Version 2.1 of the GNU Lesser General Public License (see COPYING.LGPL).

Some components (as annotated in the source) are licensed under Version 2 of the GNU General Public License (see below).

=====================================================================

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any
The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer
The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent
infringement or for any other reason (not limited to patent issues),
conditions are imposed on you (whether by court order, agreement or
otherwise) that contradict the conditions of this License, they do not
excuse you from the conditions of this License. If you cannot
distribute so as to satisfy simultaneously your obligations under this
License and any other pertinent obligations, then as a consequence you
may not distribute the Program at all. For example, if a patent
license would not permit royalty-free redistribution of the Program by
all those who receive copies directly or indirectly through you, then
the only way you could satisfy both it and this License would be to
refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under
any particular circumstance, the balance of the section is intended to
apply and the section as a whole is intended to apply in other
circumstances.

It is not the purpose of this section to induce you to infringe any
patents or other property right claims or to contest validity of any
such claims; this section has the sole purpose of protecting the
integrity of the free software distribution system, which is
implemented by public license practices. Many people have made
generous contributions to the wide range of software distributed
through that system in reliance on consistent application of that
system; it is up to the author/donor to decide if he or she is willing
to distribute software through any other system and a licensee cannot
impose that choice.

This section is intended to make thoroughly clear what is believed to
be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in
certain countries either by patents or by copyrighted interfaces, the
original copyright holder who places the Program under this License
may add an explicit geographical distribution limitation excluding
those countries, so that distribution is permitted only in or among
countries not thus excluded. In such case, this License incorporates
the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions
of the General Public License from time to time. Such new versions will
be similar in spirit to the present version, but may differ in detail to
address new problems or concerns.

Each version is given a distinguishing version number. If the Program
specifies a version number of this License which applies to it and "any
later version", you have the option of following the terms and conditions
either of that version or of any later version published by the Free
Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the program's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>

This program is free software; you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation; either version 2 of the License, or
(at your option) any later version.

This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.

You should have received a copy of the GNU General Public License along
with this program; if not, write to the Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA.

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this
when it starts in an interactive mode:

    Gnomovision version 69, Copyright (C) year name of author
    Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
    This is free software, and you are welcome to redistribute it
    under certain conditions; type `show c' for details.

The hypothetical commands `show w' and `show c' should show the appropriate
parts of the General Public License. Of course, the commands you use may
be called something other than `show w' and `show c'; they could even be
mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your
school, if any, to sign a "copyright disclaimer" for the program, if
necessary. Here is a sample; alter the names:

    Yoyodyne, Inc., hereby disclaims all copyright interest in the program
    `Gnomovision' (which makes passes at compilers) written by James Hacker.

    <signature of Ty Coon>, 1 April 1989
    Ty Coon, President of Vice

This General Public License does not permit incorporating your program into
proprietary programs. If your program is a subroutine library, you may
consider it more useful to permit linking proprietary applications with the
library. If this is what you want to do, use the GNU Lesser General
Public License instead of this License.