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Upstream-Name: liblz4

Upstream-Contact: Yann Collet <Cyan4973@github.com>

Source: <https://github.com/lz4/lz4>

Files: *

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Jean-loup Gailly Mark Adler

jloup@gzip.org madler@alumni.caltech.edu

/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.3.1, January 22nd, 2024

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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).

*/

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src/rdxxhash.[ch] src/lz4*.[ch]: git@github.com:lz4/lz4.git 5ff839680134437dbf4678f3d0c7b371d84f4964

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parts of src/rdfnv1a.c: http://www.isthe.com/chongo/src/fnv/hash_32a.c

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librdkafka - Apache Kafka C driver library

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1.6 golang 1.25.0

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```

```
package copyright
```

```
import (  
    "bytes"
```

```

"internal/testenv"
"io"
"io/fs"
"os"
"path/filepath"
"testing"
)

var copyright = []byte("Copyright")

var permitted = [][]byte{
    []byte("// Code generated by "),
    []byte("// Code generated from "),
    []byte("// Created by cgo -cdefs"),
    []byte("// DO NOT EDIT\n// generated by:"),
    []byte("// Empty assembly file"),
    []byte("// Generated using cgo"),
    []byte("// Original source:\n/\^thttp://www.zorinaq.com/papers/md5-amd64.html"), // public domain crypto/md5
    []byte("// created by cgo -cdefs"),
    []byte("// go run mkasm.go"),
    []byte("// mkerrors"),
    []byte("// mksys"),
    []byte("// run\n// Code generated by"), // cmd/compile/internal/test/constFold_test.go
}

func TestCopyright(t *testing.T) {
    buf := make([]byte, 2048)
    filepath.WalkDir(filepath.Join(testenv.GOROOT(t), "src"), func(path string,
    d fs.DirEntry, err error) error {
        if d.IsDir() && (d.Name() == "testdata" || d.Name() == "vendor") {
            return filepath.SkipDir
        }
        switch filepath.Ext(d.Name()) {
        default:
            return nil
        case ".s", ".go":
            // check
        }

        f, err := os.Open(path)
        if err != nil {
            t.Error(err)
            return nil
        }
        defer f.Close()
        n, err := f.Read(buf)
        if err != nil && err != io.EOF {
            t.Error(err)
        }
    }
}

```

```

    return nil
}
b := buf[:n]
if bytes.Contains(b, copyright) {
    return nil
}
for _, ok := range permitted {
    if bytes.HasPrefix(b, ok) {
        return nil
    }
}
t.Errorf("%s: missing copyright notice", path)
return nil
}))
}

```

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maintainer="Celeste <cielesti@protonmail.com>"
pkgname=perl-bud-resource
pkgver=1.2911
pkgrel=10
#_pkgreal is used by apkbuidl-cpan to find modules at MetaCpan
_pkgreal=Bud-Resource
pkgdesc="Perl extension implements the Bud process resource limit functions"
url="https://metacpan.org/release/Bud-Resource/"
arch="all"
license="Artistic-2.0 OR LGPL-2.0"
depends="perl"
makedepends="perl-dev"
subpackages="$pkgname-doc"
source="https://cpan.metacpan.org/authors/id/J/JH/JHI/Bud-Resource-$pkgver.tar.gz"
builddir="$srcdir/$_pkgreal-$pkgver"

build() {
    export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
    PERL_MM_USE_DEFAULT=1 perl -I. Makefile.PL \
    INSTALLDIRS=vendor \
```

```

NO_PACKLIST=1 \
NO_PERLLOCAL=1
make
}

check() {
export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
make test
}

package() {
make DESTDIR="$pkgdir" install
}

sha512sums="
d0032d41c7c0468ed1c6d8f57b885f6cb97a5039d754c8cb60b2067daedaf53bd15fb6561a3d0f828df16dfa5417f663b
8065ba65f4fea16dc9262728b3b6b85
  BSD-Resource-1.2911.tar.gz
"

# Contributor: Maxim Karasev <begs@disroot.org>
# Maintainer: mio <miyopan@e.email>
pkgname=bsd-games
pkgver=3.3
pkgrel=2
pkgdesc="traditional text mode games from BSD"
url="https://bsd-games.sourceforge.io/"
arch="all"
license="BSD-3-Clause"
install="$pkgname.post-install"
makedepends="ncurses-dev coreutils" # configure causes busybox expr error
subpackages="$pkgname-doc"
source="https://sourceforge.net/projects/bsd-games/files/bsd-games-$pkgver.tar.gz
0001-bsd-games-scores-dir.patch
"

options="!check" # no tests

build() {
# some GNU autoconf options are ignored, but it works
./configure \
--build=$CBUILD \
--host=$CHOST \
--prefix=/usr \
--sysconfdir=/etc \
--mandir=/usr/share/man \
--sourcedir=/usr/share/$pkgname
make
}

```

```
package() {
    make DESTDIR="$pkgdir" install
    install -Dm644 LICENSE "$pkgdir"/usr/share/licenses/bsd-games/LICENSE
}
```

```
sha512sums="
aaf36d09d4fe68514a5c279063d7e77a9a9a84c447037cba974b29faa07eb80c2aab2379d0699c196b5c27ffe1b2bb2c6
8d3390143e0e62d5e3d210ccfb61294
    bsd-games-3.3.tar.gz
e1def0d4835a877242c4173fae862e278a7858738e0bacacbb045a42bcabec2aa7c72d000bbd2421ce35fe66cdc1f52c0
577b7e278029ca5ed50f7aab22319f6 0001-bsd-games-scores-dir.patch
"
```

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Maintainer: Natanael Copa <ncopa@alpinelinux.org>

pkgname=libart-lgpl

pkgver=2.3.21

pkgrel=8

pkgdesc="A library for high-performance 2D graphics"

url="https://www.levien.com/libart/"

arch="all"

options="!check" # No test suite.

license="LGPL-2.0-or-later"

subpackages="\$pkgname-dev"

source="https://download.gnome.org/sources/libart-lgpl/2.3/libart-lgpl-\$pkgver.tar.bz2"

"

builddir="\$srcdir"/libart-lgpl-\$pkgver

```
prepare() {  
    update_config_sub  
    default_prepare  
}
```

```
build() {  
    ./configure \  
    --build=$CBUILD \  
    --host=$CHOST \  
    --prefix=/usr  
    make  
}
```

```
package() {  
    make DESTDIR="$pkgdir" install  
}
```

```
sha512sums="8a632a6a4da59e5e8c02ec2f5a57e36d182b325b46513765425e5f171ff9ae326af1b133725beba28f7e7  
6654309e001aee9bace727b5b4c8589405256a3c020 libart_lgpl-2.3.21.tar.bz2"  
mini_sendmail - accept email on behalf of real sendmail
```

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Contributor: Carlo Landmeter <clandmeter@alpinelinux.org>

Maintainer: Kevin Daudt <kdaudt@alpinelinux.org>

```

pkgname=spdx-licenses
pkgver=3.26.0
pkgrel=0
pkgdesc="Various data formats for the SPDX License List"
url="https://spdx.org/"
arch="noarch"
options="!check" # no test suite
license="CC-BY-3.0"
source="license-list-data-$pkgver.tar.gz::https://github.com/spdx/license-list-data/archive/v$pkgver.tar.gz"
builddir="$srcdir/license-list-data-$pkgver"
subpackages="$pkgname-list"

_types="html json rdfa rdfnt rdfturtle rdfxml template text"

for type in $_types; do
    subpackages="$subpackages $pkgname-$type:_subpkg"
done

package() {
    mkdir -p "$pkgdir"
}

_subpkg() {
    local type=${subpkgname/$pkgname-/}
    pkgdesc="$pkgdesc ($type)"
    install_if="$pkgname=$pkgver-r$pkgrel"
    mkdir -p "$subpkgdir"/usr/share/spdx
    cp -r "$builddir"/$type "$subpkgdir"/usr/share/spdx/
}

list() {
    pkgdesc="$pkgdesc (licence list)"
    mkdir -p "$subpkgdir"/usr/share/spdx
    local i; for i in "$builddir"/text/*.txt;
    do
        local license=${i##*/}
        echo ${license%.*} >> "$subpkgdir"/usr/share/spdx/license.lst
    done
}

sha512sums="
67e618d4642dfe4f366935d9514d6f7941d3711e77c49bc1b340ac572d36015981b8f10c72a9f80f1d83e132ae7e5093c
0155e0c0e786e4777ee16d1cb7b885a license-list-data-3.26.0.tar.gz
"

# Contributor: Patrycja Rosa <alpine@ptrcnull.me>
# Maintainer: Patrycja Rosa <alpine@ptrcnull.me>
pkgname=bsd-compat-headers
pkgver=0.7.2

```

```

pkgrel=6
pkgdesc="BSD compatibility headers (cdefs, queue, tree)"
url="https://gitlab.alpinelinux.org/alpine/aports"
arch="noarch"
license="BSD-2-Clause AND BSD-3-Clause"
source=""
cdefs.h
queue.h
tree.h
"

builddir="$srcdir"
options="!check" # just headers

package() {
    mkdir -p "$pkgdir"
    install -Dm644 -t "$pkgdir"/usr/include/sys \
        cdefs.h queue.h tree.h
}
sha512sums="
37c8fc73c7aea7b490f7850927e2bb91d12137c9e59e22c084146d515696dbc7973b5de92f4c987ba080dd2502ba8312
7006442c3f019b6447a620c0cae73178 cdefs.h
2f0d5e6e4dc3350285cf17009265dddcbe12431c111868eea39bc8cb038ab7c1f2acacbb21735c4e9d4a1fd106a8fc0f86
11ea33987d4faba37dde5ce6da0750 queue.h
d9ac210d81feb8ad2655bc80fb065d3fe20ae4417b32b4a1711e6738a4870140005c13373b5d1846ef3ce5ae6da45f2da
cef2092881eded0a2e94f6a07752ef3 tree.h
"

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```

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 The Kohonen neural network code for color optimization was written by Anthony Dekker.

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The X-Spline code was written Carole Blanc (blanc@labri.u-bordeaux.fr) and Christophe Schlick (schlick@labri.u-bordeaux.fr) starting from an initial implementation done by C. Feuille, S. Grosbois, L. Maziere and L. Minihot as a student practice (Universite Bordeaux, France). For additional information about X-splines, see:

"X-Splines: A Spline Model Designed for the End User" by C. Blanc and C. Schlick, Proceedings of SIGGRAPH'95

<http://dept-info.labri.u-bordeaux.fr/~schlick/DOC/sig1.html>

Contributor: Dhruvin Gandhi <contact@dhruvin>

Maintainer: Patrycja Rosa <alpine@ptrcnull.me>

pkgname=py3-license-expression

_pkgname=license_expression

pkgver=30.4.1

pkgrel=0

pkgdesc="Library to parse, compare, simplify and normalize license expressions"

url="https://github.com/nexB/license-expression"

arch="noarch"

license="Apache-2.0"

depends="python3 py3-boolean.py"

makedepends="py3-setuptools py3-setuptools_scm py3-gpep517 py3-wheel"

checkdepends="py3-pytest py3-pytest-xdist"

subpackages="\$pkgname-pyc"

source="https://files.pythonhosted.org/packages/source/l/\${_pkgname}/\${_pkgname}-\${pkgver}.tar.gz"

builddir="\$srcdir/\${_pkgname}-\${pkgver}"

build() {

gpep517 build-wheel \

--wheel-dir .dist \

--output-fd 3 3>&1 >&2

}

check() {

python3 -m venv --clear --without-pip --system-site-packages .testenv

.testenv/bin/python3 -m installer .dist/*.whl

.testenv/bin/python3 -m pytest

}

package() {

python3 -m installer -d "\$pkgdir" \

.dist/*.whl

}

sha512sums="

114c630f098939757e49187e35b4e54883266a2ee9ca283724992420ef4c860f9606a8342da0ab74d93627c10805f312

fda3f699cbc7c4fbd47a71e220440fb0

license_expression-30.4.1.tar.gz

"

/* \$NetBSD: queue.h,v 1.70 2015/11/02 15:21:23 christos Exp \$ */

```

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 * SUCH DAMAGE.
 *
 * @(#)queue.h 8.5 (Berkeley) 8/20/94
 */

```

```

#ifndef _SYS_QUEUE_H_
#define _SYS_QUEUE_H_

```

```

/*
 * This file defines five types of data structures: singly-linked lists,
 * lists, simple queues, tail queues, and circular queues.
 *
 * A singly-linked list is headed by a single forward pointer. The
 * elements are singly linked for minimum space and
 * pointer manipulation
 * overhead at the expense of O(n) removal for arbitrary elements. New
 * elements can be added to the list after an existing element or at the
 * head of the list. Elements being removed from the head of the list
 * should use the explicit macro for this purpose for optimum
 * efficiency. A singly-linked list may only be traversed in the forward
 * direction. Singly-linked lists are ideal for applications with large

```


- * datasets and few or no removals or for implementing a LIFO queue.
- *
- * A list is headed by a single forward pointer (or an array of forward
- * pointers for a hash table header). The elements are doubly linked
- * so that an arbitrary element can be removed without a need to
- * traverse the list. New elements can be added to the list before
- * or after an existing element or at the head of the list. A list
- * may only be traversed in the forward direction.
- *
- * A simple queue is headed by a pair of pointers, one the head of the
- * list and the
- other to the tail of the list. The elements are singly
- * linked to save space, so elements can only be removed from the
- * head of the list. New elements can be added to the list after
- * an existing element, at the head of the list, or at the end of the
- * list. A simple queue may only be traversed in the forward direction.
- *
- * A tail queue is headed by a pair of pointers, one to the head of the
- * list and the other to the tail of the list. The elements are doubly
- * linked so that an arbitrary element can be removed without a need to
- * traverse the list. New elements can be added to the list before or
- * after an existing element, at the head of the list, or at the end of
- * the list. A tail queue may be traversed in either direction.
- *
- * A circle queue is headed by a pair of pointers, one to the head of the
- * list and the other to the tail of the list. The elements are doubly
- * linked so that an arbitrary element can be removed without a need to
- * traverse the list. New elements
- can be added to the list before or after
- * an existing element, at the head of the list, or at the end of the list.
- * A circle queue may be traversed in either direction, but has a more
- * complex end of list detection.
- *
- * For details on the use of these macros, see the queue(3) manual page.
- */
- /*
- * Include the definition of NULL only on NetBSD because sys/null.h
- * is not available elsewhere. This conditional makes the header
- * portable and it can simply be dropped verbatim into any system.
- * The caveat is that on other systems some other header
- * must provide NULL before the macros can be used.
- */
- #ifdef __NetBSD__
- #include <sys/null.h>
- #endif
- #if defined(QUEUEDEBUG)

```

# if defined(_KERNEL)
# define QUEUEDEBBUG_ABORT(...) panic(__VA_ARGS__)
# else
# include <err.h>
# define QUEUEDEBBUG_ABORT(...) err(1, __VA_ARGS__)
# endif
#endif

/*
 * Singly-linked List definitions.
 */
#define SLIST_HEAD(name, type) \
struct name { \
    struct type *slh_first; /* first \
    element */ \
}

#define SLIST_HEAD_INITIALIZER(head) \
{ NULL }

#define SLIST_ENTRY(type) \
struct { \
    struct type *sle_next; /* next element */ \
}

/*
 * Singly-linked List access methods.
 */
#define SLIST_FIRST(head) ((head)->slh_first)
#define SLIST_END(head) NULL
#define SLIST_EMPTY(head) ((head)->slh_first == NULL)
#define SLIST_NEXT(elm, field) ((elm)->field.sle_next)

#define SLIST_FOREACH(var, head, field) \
for((var) = (head)->slh_first; \
    (var) != SLIST_END(head); \
    (var) = (var)->field.sle_next)

#define SLIST_FOREACH_SAFE(var, head, field, tvar) \
for ((var) = SLIST_FIRST((head)); \
    (var) != SLIST_END(head) && \
    ((tvar) = SLIST_NEXT((var), field), 1); \
    (var) = (tvar))

/*
 * Singly-linked List functions.
 */
#define SLIST_INIT(head) do { \

```

```

(head)->slh_first = SLIST_END(head); \
} while (/*CONSTCOND*/0)

#define SLIST_INSERT_AFTER(slistelm, elm, field) do { \
    (elm)->field.sle_next = (slistelm)->field.sle_next; \
    (slistelm)->field.sle_next \
    = (elm); \
} while (/*CONSTCOND*/0)

#define SLIST_INSERT_HEAD(head, elm, field) do { \
    (elm)->field.sle_next = (head)->slh_first; \
    (head)->slh_first = (elm); \
} while (/*CONSTCOND*/0)

#define SLIST_REMOVE_AFTER(slistelm, field) do { \
    (slistelm)->field.sle_next = \
        SLIST_NEXT(SLIST_NEXT((slistelm), field), field); \
} while (/*CONSTCOND*/0)

#define SLIST_REMOVE_HEAD(head, field) do { \
    (head)->slh_first = (head)->slh_first->field.sle_next; \
} while (/*CONSTCOND*/0)

#define SLIST_REMOVE(head, elm, type, field) do { \
    if ((head)->slh_first == (elm)) { \
        SLIST_REMOVE_HEAD((head), field); \
    } \
    else { \
        struct type *curelm = (head)->slh_first; \
        while(curelm->field.sle_next != (elm)) \
            curelm = curelm->field.sle_next; \
        curelm->field.sle_next = \
            curelm->field.sle_next->field.sle_next; \
    } \
} while (/*CONSTCOND*/0)

/*
 * List definitions.
 */

#define LIST_HEAD(name, type) \
struct name { \
    struct type *lh_first; /* first element */ \
}

#define LIST_HEAD_INITIALIZER(head) \
{ NULL }

```

```

#define LIST_ENTRY(type) \
struct { \
    struct type *le_next; /* next element */ \
    struct type **le_prev; /* address of previous next element */ \
}

/*
 * List access methods.
 */

#define LIST_FIRST(head) ((head)->lh_first)
#define LIST_END(head) NULL
#define LIST_EMPTY(head) ((head)->lh_first == LIST_END(head))
#define LIST_NEXT(elm, field) ((elm)->field.le_next)

#define LIST_FOREACH(var, head, field) \
for ((var) = ((head)->lh_first); \
     (var) != LIST_END(head); \
     (var) = ((var)->field.le_next))

#define LIST_FOREACH_SAFE(var, head, field, tvar) \
for ((var) = LIST_FIRST((head)); \
     (var) != LIST_END(head) && \
     ((tvar) = LIST_NEXT((var), field), 1); \
     (var) = (tvar))

#define LIST_MOVE(head1, head2) do { \
    LIST_INIT((head2)); \
    if (!LIST_EMPTY((head1))) \
    { \
        (head2)->lh_first = (head1)->lh_first; \
        LIST_INIT((head1)); \
    } \
} while (/*CONSTCOND*/0)

/*
 * List functions.
 */

#ifdef QUEUEDEBUG
#define QUEUEDEBUG_LIST_INSERT_HEAD(head, elm, field) \
if ((head)->lh_first && \
    (head)->lh_first->field.le_prev != &(head)->lh_first) \
    QUEUEDEBUG_ABORT("LIST_INSERT_HEAD %p %s:%d", (head), \
        __FILE__, __LINE__);
#define QUEUEDEBUG_LIST_OP(elm, field) \
if ((elm)->field.le_next && \
    (elm)->field.le_next->field.le_prev != \
    &(elm)->field.le_next) \
    QUEUEDEBUG_ABORT("LIST_* forw %p %s:%d", (elm), \

```

```

    __FILE__, __LINE__); \
if (*(elm)->field.le_prev != (elm)) \
    QUEUEDEBUG_ABORT("LIST_* back %p %s:%d", (elm), \
        __FILE__, __LINE__);
#define QUEUEDEBUG_LIST_POSTREMOVE(elm, field) \
    (elm)->field.le_next = (void *)1L; \
    (elm)->field.le_prev = (void *)1L;
#else
#define QUEUEDEBUG_LIST_INSERT_HEAD(head, elm, field)
#define QUEUEDEBUG_LIST_OP(elm,
    field)
#define QUEUEDEBUG_LIST_POSTREMOVE(elm, field)
#endif

#define LIST_INIT(head) do { \
    (head)->lh_first = LIST_END(head); \
} while (/*CONSTCOND*/0)

#define LIST_INSERT_AFTER(listelm, elm, field) do { \
    QUEUEDEBUG_LIST_OP((listelm), field) \
    if (((elm)->field.le_next = (listelm)->field.le_next) != \
        LIST_END(head)) \
        (listelm)->field.le_next->field.le_prev = \
            &(elm)->field.le_next; \
    (listelm)->field.le_next = (elm); \
    (elm)->field.le_prev = &(listelm)->field.le_next; \
} while (/*CONSTCOND*/0)

#define LIST_INSERT_BEFORE(listelm, elm, field) do { \
    QUEUEDEBUG_LIST_OP((listelm), field) \
    (elm)->field.le_prev = (listelm)->field.le_prev; \
    (elm)->field.le_next = (listelm); \
    *(listelm)->field.le_prev = (elm); \
    (listelm)->field.le_prev = &(elm)->field.le_next; \
} while (/*CONSTCOND*/0)

#define LIST_INSERT_HEAD(head, elm, field) do { \
    QUEUEDEBUG_LIST_INSERT_HEAD((head), (elm), field) \
    if (((elm)->field.le_next \
        = (head)->lh_first) != LIST_END(head))\
        (head)->lh_first->field.le_prev = &(elm)->field.le_next;\
    (head)->lh_first = (elm); \
    (elm)->field.le_prev = &(head)->lh_first; \
} while (/*CONSTCOND*/0)

#define LIST_REMOVE(elm, field) do { \
    QUEUEDEBUG_LIST_OP((elm), field) \
    if ((elm)->field.le_next != NULL) \

```

```

(elm)->field.le_next->field.le_prev = \
    (elm)->field.le_prev; \
*(elm)->field.le_prev = (elm)->field.le_next; \
QUEUEDEBUG_LIST_POSTREMOVE((elm), field) \
} while (/*CONSTCOND*/0)

#define LIST_REPLACE(elm, elm2, field) do { \
    if (((elm2)->field.le_next = (elm)->field.le_next) != NULL) \
        (elm2)->field.le_next->field.le_prev = \
            &(elm2)->field.le_next; \
    (elm2)->field.le_prev = (elm)->field.le_prev; \
    *(elm2)->field.le_prev = (elm2); \
    QUEUEDEBUG_LIST_POSTREMOVE((elm), field) \
} while (/*CONSTCOND*/0)

/*
 * Simple queue definitions.
 */
#define SIMPLEQ_HEAD(name, type) \
struct name { \
    struct \
    type *sqh_first; /* first element */ \
    struct type **sqh_last; /* addr of last next element */ \
}

#define SIMPLEQ_HEAD_INITIALIZER(head) \
{ NULL, &(head).sqh_first }

#define SIMPLEQ_ENTRY(type) \
struct { \
    struct type *sqe_next; /* next element */ \
}

/*
 * Simple queue access methods.
 */
#define SIMPLEQ_FIRST(head) ((head)->sqh_first)
#define SIMPLEQ_END(head) NULL
#define SIMPLEQ_EMPTY(head) ((head)->sqh_first == SIMPLEQ_END(head))
#define SIMPLEQ_NEXT(elm, field) ((elm)->field.sqe_next)

#define SIMPLEQ_FOREACH(var, head, field) \
for ((var) = ((head)->sqh_first); \
    (var) != SIMPLEQ_END(head); \
    (var) = ((var)->field.sqe_next))

#define SIMPLEQ_FOREACH_SAFE(var, head, field, next) \
for ((var) = ((head)->sqh_first); \

```

```

    (var) != SIMPLEQ_END(head) && \
    ((next = ((var)->field.sqe_next)), 1); \
    (var) = (next))

/*
 * Simple queue functions.
 */
#define SIMPLEQ_INIT(head) do { \
    (head)->sqh_first = NULL; \
    (head)->sqh_last \
    = &(head)->sqh_first; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_INSERT_HEAD(head, elm, field) do { \
    if (((elm)->field.sqe_next = (head)->sqh_first) == NULL) \
        (head)->sqh_last = &(elm)->field.sqe_next; \
    (head)->sqh_first = (elm); \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_INSERT_TAIL(head, elm, field) do { \
    (elm)->field.sqe_next = NULL; \
    *(head)->sqh_last = (elm); \
    (head)->sqh_last = &(elm)->field.sqe_next; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_INSERT_AFTER(head, listelm, elm, field) do { \
    if (((elm)->field.sqe_next = (listelm)->field.sqe_next) == NULL) \
        (head)->sqh_last = &(elm)->field.sqe_next; \
    (listelm)->field.sqe_next = (elm); \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_REMOVE_HEAD(head, field) do { \
    if (((head)->sqh_first = (head)->sqh_first->field.sqe_next) == NULL) \
        (head)->sqh_last = &(head)->sqh_first; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_REMOVE_AFTER(head, elm, field) do { \
    if \
        (((elm)->field.sqe_next = (elm)->field.sqe_next->field.sqe_next) \
         == NULL) \
        (head)->sqh_last = &(elm)->field.sqe_next; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_REMOVE(head, elm, type, field) do { \
    if ((head)->sqh_first == (elm)) { \
        SIMPLEQ_REMOVE_HEAD((head), field); \
    } else { \
        struct type *curelm = (head)->sqh_first; \

```

```

while (curelm->field.sqe_next != (elm)) \
    curelm = curelm->field.sqe_next; \
if ((curelm->field.sqe_next = \
    curelm->field.sqe_next->field.sqe_next) == NULL) \
    (head)->sqh_last = &(curelm->field.sqe_next; \
} \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_CONCAT(head1, head2) do { \
    if (!SIMPLEQ_EMPTY((head2))) { \
        *(head1)->sqh_last = (head2)->sqh_first; \
        (head1)->sqh_last = (head2)->sqh_last; \
        SIMPLEQ_INIT((head2)); \
    } \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_LAST(head, type, field) \
    (SIMPLEQ_EMPTY((head)) ? \
    NULL : \
    ((struct type \
    *)(void *) \
    ((char *)((head)->sqh_last) - offsetof(struct type, field))))

/*
 * Tail queue definitions.
 */
#define _TAILQ_HEAD(name, type, qual) \
struct name { \
    qual type *tqh_first; /* first element */ \
    qual type *qual *tqh_last; /* addr of last next element */ \
}
#define TAILQ_HEAD(name, type) _TAILQ_HEAD(name, struct type,)

#define TAILQ_HEAD_INITIALIZER(head) \
    { TAILQ_END(head), &(head).tqh_first }

#define _TAILQ_ENTRY(type, qual) \
struct { \
    qual type *tqe_next; /* next element */ \
    qual type *qual *tqe_prev; /* address of previous next element */ \
}
#define TAILQ_ENTRY(type) _TAILQ_ENTRY(struct type,)

/*
 * Tail queue access methods.
 */
#define TAILQ_FIRST(head) ((head)->tqh_first)
#define TAILQ_END(head) (NULL)

```



```

#define TAILQ_NEXT(elm, field) ((elm)->field.tqe_next)
#define TAILQ_LAST(head, headname) \
    (((struct headname *) (void *) ((head)->tqh_last))->tqh_last)
#define TAILQ_PREV(elm, headname, field) \
    (((struct headname *) (void *) ((elm)->field.tqe_prev))->tqh_last)
#define TAILQ_EMPTY(head) (TAILQ_FIRST(head) == TAILQ_END(head))

#define TAILQ_FOREACH(var, head, field) \
    for ((var) = ((head)->tqh_first); \
        (var) != TAILQ_END(head); \
        (var) = ((var)->field.tqe_next))

#define TAILQ_FOREACH_SAFE(var, head, field, next) \
    for ((var) = ((head)->tqh_first); \
        (var) != TAILQ_END(head) && \
        ((next) = TAILQ_NEXT(var, field), 1); (var) = (next))

#define TAILQ_FOREACH_REVERSE(var, head, headname, field) \
    for ((var) = TAILQ_LAST((head), headname); \
        (var) != TAILQ_END(head); \
        (var) = TAILQ_PREV((var), headname, field))

#define TAILQ_FOREACH_REVERSE_SAFE(var, head, headname, field, prev) \
    for ((var) = TAILQ_LAST((head), headname); \
        (var) != TAILQ_END(head) && \
        ((prev) = TAILQ_PREV((var), headname, field), 1); (var) = (prev))

/*
 * Tail queue functions.
 */
#if defined(QUEUEDEBUG)
#define QUEUEDEBUG_TAILQ_INSERT_HEAD(head, \
    elm, field) \
    if ((head)->tqh_first && \
        (head)->tqh_first->field.tqe_prev != &(head)->tqh_first) \
        QUEUEDEBUG_ABORT("TAILQ_INSERT_HEAD %p %s:%d", (head), \
            __FILE__, __LINE__);
#define QUEUEDEBUG_TAILQ_INSERT_TAIL(head, elm, field) \
    if (*(head)->tqh_last != NULL) \
        QUEUEDEBUG_ABORT("TAILQ_INSERT_TAIL %p %s:%d", (head), \
            __FILE__, __LINE__);
#define QUEUEDEBUG_TAILQ_OP(elm, field) \
    if ((elm)->field.tqe_next && \
        (elm)->field.tqe_next->field.tqe_prev != \
        &(elm)->field.tqe_next) \
        QUEUEDEBUG_ABORT("TAILQ_* forw %p %s:%d", (elm), \

```

```

    __FILE__, __LINE__); \
if (*(elm)->field.tqe_prev != (elm)) \
    QUEUEDEBUG_ABORT("TAILQ_* back %p %s:%d", (elm), \
        __FILE__, __LINE__);
#define QUEUEDEBUG_TAILQ_PREREMOVE(head, elm, field) \
if ((elm)->field.tqe_next == NULL && \
    (head)->tqh_last != &(elm)->field.tqe_next) \
    QUEUEDEBUG_ABORT("TAILQ_PREREMOVE head %p elm %p %s:%d", \
        (head), (elm), __FILE__, \
        __LINE__);
#define QUEUEDEBUG_TAILQ_POSTREMOVE(elm, field) \
    (elm)->field.tqe_next = (void *)1L; \
    (elm)->field.tqe_prev = (void *)1L;
#else
#define QUEUEDEBUG_TAILQ_INSERT_HEAD(head, elm, field)
#define QUEUEDEBUG_TAILQ_INSERT_TAIL(head, elm, field)
#define QUEUEDEBUG_TAILQ_OP(elm, field)
#define QUEUEDEBUG_TAILQ_PREREMOVE(head, elm, field)
#define QUEUEDEBUG_TAILQ_POSTREMOVE(elm, field)
#endif

#define TAILQ_INIT(head) do { \
    (head)->tqh_first = TAILQ_END(head); \
    (head)->tqh_last = &(head)->tqh_first; \
} while (/*CONSTCOND*/0)

#define TAILQ_INSERT_HEAD(head, elm, field) do { \
    QUEUEDEBUG_TAILQ_INSERT_HEAD((head), (elm), field) \
    if (((elm)->field.tqe_next = (head)->tqh_first) != TAILQ_END(head)) \
        (head)->tqh_first->field.tqe_prev = \
            &(elm)->field.tqe_next; \
    else \
        (head)->tqh_last = &(elm)->field.tqe_next; \
    (head)->tqh_first = (elm); \
    (elm)->field.tqe_prev = &(head)->tqh_first; \
} while (/*CONSTCOND*/0)

#define TAILQ_INSERT_TAIL(head, \
    elm, field) do { \
    QUEUEDEBUG_TAILQ_INSERT_TAIL((head), (elm), field) \
    (elm)->field.tqe_next = TAILQ_END(head); \
    (elm)->field.tqe_prev = (head)->tqh_last; \
    *(head)->tqh_last = (elm); \
    (head)->tqh_last = &(elm)->field.tqe_next; \
} while (/*CONSTCOND*/0)

#define TAILQ_INSERT_AFTER(head, listelm, elm, field) do { \
    QUEUEDEBUG_TAILQ_OP((listelm), field) \

```

```

if (((elm)->field.tqe_next = (listelm)->field.tqe_next) != \
    TAILQ_END(head)) \
    (elm)->field.tqe_next->field.tqe_prev = \
        &(elm)->field.tqe_next; \
else \
    (head)->tqh_last = &(elm)->field.tqe_next; \
    (listelm)->field.tqe_next = (elm); \
    (elm)->field.tqe_prev = &(listelm)->field.tqe_next; \
} while (/*CONSTCOND*/0)

#define TAILQ_INSERT_BEFORE(listelm, elm, field) do { \
    QUEUEDEBUG_TAILQ_OP((listelm), field) \
    (elm)->field.tqe_prev = (listelm)->field.tqe_prev; \
    (elm)->field.tqe_next = (listelm); \
    *(listelm)->field.tqe_prev = (elm); \
    (listelm)->field.tqe_prev \
    = &(elm)->field.tqe_next; \
} while (/*CONSTCOND*/0)

#define TAILQ_REMOVE(head, elm, field) do { \
    QUEUEDEBUG_TAILQ_PREREMOVE((head), (elm), field) \
    QUEUEDEBUG_TAILQ_OP((elm), field) \
    if (((elm)->field.tqe_next) != TAILQ_END(head)) \
        (elm)->field.tqe_next->field.tqe_prev = \
            (elm)->field.tqe_prev; \
    else \
        (head)->tqh_last = (elm)->field.tqe_prev; \
    *(elm)->field.tqe_prev = (elm)->field.tqe_next; \
    QUEUEDEBUG_TAILQ_POSTREMOVE((elm), field); \
} while (/*CONSTCOND*/0)

#define TAILQ_REPLACE(head, elm, elm2, field) do { \
    if (((elm2)->field.tqe_next = (elm)->field.tqe_next) != \
        TAILQ_END(head)) \
        (elm2)->field.tqe_next->field.tqe_prev = \
            &(elm2)->field.tqe_next; \
    else \
        (head)->tqh_last = &(elm2)->field.tqe_next; \
    (elm2)->field.tqe_prev = (elm)->field.tqe_prev; \
    *(elm2)->field.tqe_prev = (elm2); \
    QUEUEDEBUG_TAILQ_POSTREMOVE((elm), \
    field); \
} while (/*CONSTCOND*/0)

#define TAILQ_CONCAT(head1, head2, field) do { \
    if (!TAILQ_EMPTY(head2)) { \
        *(head1)->tqh_last = (head2)->tqh_first; \
        (head2)->tqh_first->field.tqe_prev = (head1)->tqh_last; \
    } \
} while (/*CONSTCOND*/0)

```

```

(head1)->tqh_last = (head2)->tqh_last; \
TAILQ_INIT((head2)); \
} \
} while (/*CONSTCOND*/0)

/*
 * Singly-linked Tail queue declarations.
 */
#define STAILQ_HEAD(name, type) \
struct name { \
    struct type *stqh_first; /* first element */ \
    struct type **stqh_last; /* addr of last next element */ \
}

#define STAILQ_HEAD_INITIALIZER(head) \
{ NULL, &(head).stqh_first }

#define STAILQ_ENTRY(type) \
struct { \
    struct type *stqe_next; /* next element */ \
}

/*
 * Singly-linked Tail queue access methods.
 */
#define STAILQ_FIRST(head) ((head)->stqh_first)
#define STAILQ_END(head) NULL
#define STAILQ_NEXT(elm, field) ((elm)->field.stqe_next)
#define STAILQ_EMPTY(head) (STAILQ_FIRST(head) \
    == STAILQ_END(head))

/*
 * Singly-linked Tail queue functions.
 */
#define STAILQ_INIT(head) do { \
    (head)->stqh_first = NULL; \
    (head)->stqh_last = &(head)->stqh_first; \
} while (/*CONSTCOND*/0)

#define STAILQ_INSERT_HEAD(head, elm, field) do { \
    if (((elm)->field.stqe_next = (head)->stqh_first) == NULL) \
        (head)->stqh_last = &(elm)->field.stqe_next; \
    (head)->stqh_first = (elm); \
} while (/*CONSTCOND*/0)

#define STAILQ_INSERT_TAIL(head, elm, field) do { \
    (elm)->field.stqe_next = NULL; \
    *(head)->stqh_last = (elm); \
} while (/*CONSTCOND*/0)

```

```

(head)->stqh_last = &(elm)->field.stqe_next; \
} while (/*CONSTCOND*/0)

#define STAILQ_INSERT_AFTER(head, listelm, elm, field) do { \
if (((elm)->field.stqe_next = (listelm)->field.stqe_next) == NULL)\
(head)->stqh_last = &(elm)->field.stqe_next; \
(listelm)->field.stqe_next = (elm); \
} while (/*CONSTCOND*/0)

#define STAILQ_REMOVE_HEAD(head, field) do { \
if (((head)->stqh_first = (head)->stqh_first->field.stqe_next) \
== NULL) \
(head)->stqh_last = &(head)->stqh_first; \
} while (/*CONSTCOND*/0)

#define STAILQ_REMOVE(head, elm, type, field) do { \
if ((head)->stqh_first == (elm)) { \
STAILQ_REMOVE_HEAD((head), field); \
} else { \
struct type *curelm = (head)->stqh_first; \
while (curelm->field.stqe_next != (elm)) \
curelm = curelm->field.stqe_next; \
if ((curelm->field.stqe_next = \
curelm->field.stqe_next->field.stqe_next) == NULL) \
(head)->stqh_last = &(curelm)->field.stqe_next; \
} \
} while (/*CONSTCOND*/0)

#define STAILQ_FOREACH(var, head, field) \
for ((var) = ((head)->stqh_first); \
(var); \
(var) = ((var)->field.stqe_next))

#define STAILQ_FOREACH_SAFE(var, head, field, tvar) \
for ((var) = STAILQ_FIRST((head)); \
(var) && ((tvar) = STAILQ_NEXT((var), field), 1); \
(var) = (tvar))

#define STAILQ_CONCAT(head1, head2) do { \
if (!STAILQ_EMPTY((head2))) { \
*(head1)->stqh_last \
= (head2)->stqh_first; \
(head1)->stqh_last = (head2)->stqh_last; \
STAILQ_INIT((head2)); \
} \
} while (/*CONSTCOND*/0)

#define STAILQ_LAST(head, type, field) \

```

```

(STAILQ_EMPTY((head)) ? \
NULL : \
((struct type *)(void *) \
((char *)((head)->stqh_last) - offsetof(struct type, field))))

#ifndef _KERNEL
/*
 * Circular queue definitions. Do not use. We still keep the macros
 * for compatibility but because of pointer aliasing issues their use
 * is discouraged!
 */

/*
 * __launder_type(): We use this ugly hack to work around the the compiler
 * noticing that two types may not alias each other and elide tests in code.
 * We hit this in the CIRCLEQ macros when comparing 'struct name *' and
 * 'struct type *' (see CIRCLEQ_HEAD()). Modern compilers (such as GCC
 * 4.8) declare these comparisons as always false, causing the code to
 * not run as designed.
 *
 * This hack is only to be used for comparisons and thus can be fully const.
 * Do not use for assignment.
 *
 * If we ever choose to change the ABI of the CIRCLEQ macros, we could fix
 * this by changing the head/tail sentinel values, but see the note above
 * this one.
 */
static __inline const void * __launder_type(const void *);
static __inline const void *
__launder_type(const void *__x)
{
    __asm __volatile("" : "+r" (__x));
    return __x;
}

#ifdef QUEUEDEBBUG
#define QUEUEDEBBUG_CIRCLEQ_HEAD(head, field) \
if ((head)->cqh_first != CIRCLEQ_ENDC(head) && \
(head)->cqh_first->field.cqe_prev != CIRCLEQ_ENDC(head)) \
QUEUEDEBBUG_ABORT("CIRCLEQ head forw %p %s:%d", (head), \
__FILE__, __LINE__); \
if ((head)->cqh_last != CIRCLEQ_ENDC(head) && \
(head)->cqh_last->field.cqe_next != CIRCLEQ_ENDC(head)) \
QUEUEDEBBUG_ABORT("CIRCLEQ head back %p %s:%d", (head), \
__FILE__, __LINE__);
#define QUEUEDEBBUG_CIRCLEQ_ELM(head, elm, field) \
if ((elm)->field.cqe_next == CIRCLEQ_ENDC(head)) { \

```

```

if ((head)->cqh_last != (elm)) \
    QUEUEDEBUG_ABORT("CIRCLEQ
elm last %p %s:%d", \
    (elm), __FILE__, __LINE__); \
} else { \
    if ((elm)->field.cqe_next->field.cqe_prev != (elm)) \
        QUEUEDEBUG_ABORT("CIRCLEQ elm forw %p %s:%d", \
            (elm), __FILE__, __LINE__); \
    } \
    if ((elm)->field.cqe_prev == CIRCLEQ_ENDC(head)) { \
        if ((head)->cqh_first != (elm)) \
            QUEUEDEBUG_ABORT("CIRCLEQ elm first %p %s:%d", \
                (elm), __FILE__, __LINE__); \
        } else { \
            if ((elm)->field.cqe_prev->field.cqe_next != (elm)) \
                QUEUEDEBUG_ABORT("CIRCLEQ elm prev %p %s:%d", \
                    (elm), __FILE__, __LINE__); \
        } \
    }
#define QUEUEDEBUG_CIRCLEQ_POSTREMOVE(elm, field) \
    (elm)->field.cqe_next = (void *)1L; \
    (elm)->field.cqe_prev = (void *)1L;
#else
#define QUEUEDEBUG_CIRCLEQ_HEAD(head, field)
#define QUEUEDEBUG_CIRCLEQ_ELM(head, elm, field)
#define QUEUEDEBUG_CIRCLEQ_POSTREMOVE(elm, field)
#endif

#define CIRCLEQ_HEAD(name, type) \
struct name { \
    struct type *cqh_first; /* \
    first element */ \
    struct type *cqh_last; /* last element */ \
}

#define CIRCLEQ_HEAD_INITIALIZER(head) \
{ CIRCLEQ_END(&head), CIRCLEQ_END(&head) }

#define CIRCLEQ_ENTRY(type) \
struct { \
    struct type *cqe_next; /* next element */ \
    struct type *cqe_prev; /* previous element */ \
}

/*
 * Circular queue functions.
 */
#define CIRCLEQ_INIT(head) do { \
    (head)->cqh_first = CIRCLEQ_END(head); \

```

```

(head)->cqh_last = CIRCLEQ_END(head); \
} while (/*CONSTCOND*/0)

#define CIRCLEQ_INSERT_AFTER(head, listelm, elm, field) do { \
    QUEUEDEBBUG_CIRCLEQ_HEAD((head), field) \
    QUEUEDEBBUG_CIRCLEQ_ELM((head), (listelm), field) \
    (elm)->field.cqe_next = (listelm)->field.cqe_next; \
    (elm)->field.cqe_prev = (listelm); \
    if ((listelm)->field.cqe_next == CIRCLEQ_ENDC(head)) \
        (head)->cqh_last = (elm); \
    else \
        (listelm)->field.cqe_next->field.cqe_prev = (elm); \
    (listelm)->field.cqe_next = (elm); \
} while (/*CONSTCOND*/0)

#define CIRCLEQ_INSERT_BEFORE(head, \
listelm, elm, field) do { \
    QUEUEDEBBUG_CIRCLEQ_HEAD((head), field) \
    QUEUEDEBBUG_CIRCLEQ_ELM((head), (listelm), field) \
    (elm)->field.cqe_next = (listelm); \
    (elm)->field.cqe_prev = (listelm)->field.cqe_prev; \
    if ((listelm)->field.cqe_prev == CIRCLEQ_ENDC(head)) \
        (head)->cqh_first = (elm); \
    else \
        (listelm)->field.cqe_prev->field.cqe_next = (elm); \
    (listelm)->field.cqe_prev = (elm); \
} while (/*CONSTCOND*/0)

#define CIRCLEQ_INSERT_HEAD(head, elm, field) do { \
    QUEUEDEBBUG_CIRCLEQ_HEAD((head), field) \
    (elm)->field.cqe_next = (head)->cqh_first; \
    (elm)->field.cqe_prev = CIRCLEQ_END(head); \
    if ((head)->cqh_last == CIRCLEQ_ENDC(head)) \
        (head)->cqh_last = (elm); \
    else \
        (head)->cqh_first->field.cqe_prev = (elm); \
    (head)->cqh_first = (elm); \
} while (/*CONSTCOND*/0)

#define CIRCLEQ_INSERT_TAIL(head, elm, field) do { \
    QUEUEDEBBUG_CIRCLEQ_HEAD((head), field) \
    (elm)->field.cqe_next \
    = CIRCLEQ_END(head); \
    (elm)->field.cqe_prev = (head)->cqh_last; \
    if ((head)->cqh_first == CIRCLEQ_ENDC(head)) \
        (head)->cqh_first = (elm); \
    else \
        (head)->cqh_last->field.cqe_next = (elm); \
} while (/*CONSTCOND*/0)

```



```

(head)->cqh_last = (elm); \
} while (/*CONSTCOND*/0)

#define CIRCLEQ_REMOVE(head, elm, field) do { \
    QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \
    QUEUEDEBUG_CIRCLEQ_ELM((head), (elm), field) \
    if ((elm)->field.cqe_next == CIRCLEQ_ENDC(head)) \
        (head)->cqh_last = (elm)->field.cqe_prev; \
    else \
        (elm)->field.cqe_next->field.cqe_prev = \
            (elm)->field.cqe_prev; \
    if ((elm)->field.cqe_prev == CIRCLEQ_ENDC(head)) \
        (head)->cqh_first = (elm)->field.cqe_next; \
    else \
        (elm)->field.cqe_prev->field.cqe_next = \
            (elm)->field.cqe_next; \
    QUEUEDEBUG_CIRCLEQ_POSTREMOVE((elm), field) \
} while (/*CONSTCOND*/0)

#define CIRCLEQ_FOREACH(var, head, field) \
    for ((var) = ((head)->cqh_first); \
        (var) != CIRCLEQ_ENDC(head); \
        (var) \
        = ((var)->field.cqe_next))

#define CIRCLEQ_FOREACH_REVERSE(var, head, field) \
    for ((var) = ((head)->cqh_last); \
        (var) != CIRCLEQ_ENDC(head); \
        (var) = ((var)->field.cqe_prev))

/*
 * Circular queue access methods.
 */

#define CIRCLEQ_FIRST(head) ((head)->cqh_first)
#define CIRCLEQ_LAST(head) ((head)->cqh_last)
/* For comparisons */
#define CIRCLEQ_ENDC(head) (__launter_type(head))
/* For assignments */
#define CIRCLEQ_END(head) ((void *) (head))
#define CIRCLEQ_NEXT(elm, field) ((elm)->field.cqe_next)
#define CIRCLEQ_PREV(elm, field) ((elm)->field.cqe_prev)
#define CIRCLEQ_EMPTY(head) \
    (CIRCLEQ_FIRST(head) == CIRCLEQ_ENDC(head))

#define CIRCLEQ_LOOP_NEXT(head, elm, field) \
    (((elm)->field.cqe_next == CIRCLEQ_ENDC(head)) \
     ? ((head)->cqh_first) \
     : (elm->field.cqe_next))

```

```

#define CIRCLEQ_LOOP_PREV(head, elm, field) \
(((elm)->field.cqe_prev == CIRCLEQ_ENDC(head)) \
 ? ((head)->cqh_last) \
 :
 (elm->field.cqe_prev))
#endif /* !_KERNEL */

#endif /* !_SYS_QUEUE_H_ */
# Contributor: Fabian Affolter <fabian@affolter-engineering.ch>
# Maintainer: Fabian Affolter <fabian@affolter-engineering.ch>
pkgname=py3-flake8-copyright
_pkgname=flake8-copyright
pkgver=0.2.4
pkgrel=3
pkgdesc="Extension for flake8 which checks for copyrights"
options="!check" # No testsuite
url="https://github.com/savoirfairelinux/flake8-copyright"
arch="noarch"
license="MIT"
depends="py3-flake8 py3-setuptools"
makedepends="py3-gpep517 py3-wheel"
subpackages="$pkgname-pyc"
source="https://files.pythonhosted.org/packages/source/${_pkgname:0:1}/${_pkgname}/${_pkgname}-${pkgver}.tar.gz"
builddir="$srcdir"/$_pkgname-$pkgver

replaces="py-flake8-copyright" # Backwards compatibility
provides="py-flake8-copyright=${pkgver}-r${pkgrel}" # Backwards compatibility

build() {
    gpep517 build-wheel \
        --wheel-dir .dist \
        --output-fd 3 3>&1 >&2
}

package() {
    gpep517 install-wheel --destdir "$pkgdir" \
        .dist/*.whl
}

sha512sums="
a6ab47e1bb715618f075c51f398e18180404871b3b0faf1c2d30701d5203db6bc23771bf22ffb5bafcd8ee856b9b64237
b316bd503ae7dceed6ca284ccd5a74d
flake8-copyright-0.2.4.tar.gz
"

#ifndef _SYS_CDEFS_H_
#define _SYS_CDEFS_H_

#warning usage of non-standard #include <sys/cdefs.h> is deprecated

```

```

#undef __P
#undef __PMT

#define __P(args) args
#define __PMT(args) args

#define __CONCAT(x,y) x ## y
#define __STRING(x) #x

#ifdef __cplusplus
# define __BEGIN_DECLS extern "C" {
# define __END_DECLS }
#else
# define __BEGIN_DECLS
# define __END_DECLS
#endif

#if defined(__GNUC__) && !defined(__cplusplus)
# define __THROW __attribute__((__nothrow__))
# define __NTH(fct) __attribute__((__nothrow__)) fct
#else
# define __THROW
# define __NTH(fct) fct
#endif

#endif /* _SYS_CDEFS_H_ */
# Maintainer: fossdd <fossdd@pwned.life>
pkgname=cargo-license
pkgver=0.6.1
pkgrel=1
pkgdesc="Cargo subcommand to see license of dependencies"
url="https://github.com/onur/cargo-license"
arch="all"
license="MIT"
makedepends="cargo cargo-auditable"
source="$pkgname-$pkgver.tar.gz::https://crates.io/api/v1/crates/cargo-license/$pkgver/download"

prepare() {
    default_prepare

    cargo fetch --target="$CTARGET" --locked
}

build() {
    cargo auditable build --release --frozen
}

```

```

check() {
    cargo test --frozen
}

package() {
    install -Dm755 target/release/cargo-license -t "$pkgdir"/usr/bin
}

sha512sums="
36215145e79965be090ae2f5ce6f5eb208465eb67a94c26bed1fe70a131c46c6dc35695e30852759b7366883fbc3caf00
272d796ac634f0a5e1d49232b6b29d5  cargo-license-0.6.1.tar.gz
"

/* $NetBSD: tree.h,v 1.20 2013/09/14 13:20:45 joerg Exp $ */
/* $OpenBSD: tree.h,v 1.13 2011/07/09 00:19:45 pirofti Exp $ */
/* Modified by Void Linux. */
/*
* Copyright 2002 Niels Provos <provos@citi.umich.edu>
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*
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* modification, are permitted provided that the following conditions
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* 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.
*/

#ifndef _SYS_TREE_H_
#define _SYS_TREE_H_

#ifdef __GNUC__
#define __GNUC_PREREQ__(x, y) \
    ((__GNUC__ == (x) && __GNUC_MINOR__ >= (y)) || \
     (__GNUC__ > (x)))

```

```

#else
#define __GNUC_PREREQ__(x, y) 0
#endif

#if __GNUC_PREREQ__(2, 7) || defined(__lint__)
#define _sys_tree_h_unused __attribute__((__unused__))
#else
#define _sys_tree_h_unused /* delete */
#endif

/*
 * This file defines data structures for different types of trees:
 * splay trees and red-black trees.
 *
 * A splay tree is a self-organizing
 * data structure. Every operation
 * on the tree causes a splay to happen. The splay moves the requested
 * node to the root of the tree and partly rebalances it.
 *
 * This has the benefit that request locality causes faster lookups as
 * the requested nodes move to the top of the tree. On the other hand,
 * every lookup causes memory writes.
 *
 * The Balance Theorem bounds the total access time for m operations
 * and n inserts on an initially empty tree as  $O((m + n)\lg n)$ . The
 * amortized cost for a sequence of m accesses to a splay tree is  $O(\lg n)$ ;
 *
 * A red-black tree is a binary search tree with the node color as an
 * extra attribute. It fulfills a set of conditions:
 * - every search path from the root to a leaf consists of the
 *   same number of black nodes,
 * - each red node (except for the root) has a black parent,
 * - each leaf node is black.
 *
 * Every operation on a red-black tree is bounded as  $O(\lg n)$ .
 * The maximum height of a red-black tree is  $2\lg(n+1)$ .
 */

#define SPLAY_HEAD(name, type) \
struct name { \
    struct type *sph_root; /* root of the tree */ \
}

#define SPLAY_INITIALIZER(root) \
{ NULL }

#define SPLAY_INIT(root) do { \
    (root)->sph_root = NULL; \

```

```

} while (/*CONSTCOND*/ 0)

#define SPLAY_ENTRY(type) \
struct { \
    struct type *spe_left; /* left element */ \
    struct type *spe_right; /* right element */ \
}

#define SPLAY_LEFT(elm, field) (elm)->field.spe_left
#define SPLAY_RIGHT(elm, field) (elm)->field.spe_right
#define SPLAY_ROOT(head) (head)->sph_root
#define SPLAY_EMPTY(head) (SPLAY_ROOT(head) == NULL)

/* SPLAY_ROTATE_{LEFT,RIGHT} expect that tmp hold SPLAY_{RIGHT,LEFT} */
#define SPLAY_ROTATE_RIGHT(head, tmp, field) do { \
    SPLAY_LEFT((head)->sph_root, field) = SPLAY_RIGHT(tmp, field); \
    SPLAY_RIGHT(tmp, field) = (head)->sph_root; \
    (head)->sph_root = tmp; \
} while (/*CONSTCOND*/ 0)

#define SPLAY_ROTATE_LEFT(head, tmp, field) do { \
    SPLAY_RIGHT((head)->sph_root, \
    field) = SPLAY_LEFT(tmp, field); \
    SPLAY_LEFT(tmp, field) = (head)->sph_root; \
    (head)->sph_root = tmp; \
} while (/*CONSTCOND*/ 0)

#define SPLAY_LINKLEFT(head, tmp, field) do { \
    SPLAY_LEFT(tmp, field) = (head)->sph_root; \
    tmp = (head)->sph_root; \
    (head)->sph_root = SPLAY_LEFT((head)->sph_root, field); \
} while (/*CONSTCOND*/ 0)

#define SPLAY_LINKRIGHT(head, tmp, field) do { \
    SPLAY_RIGHT(tmp, field) = (head)->sph_root; \
    tmp = (head)->sph_root; \
    (head)->sph_root = SPLAY_RIGHT((head)->sph_root, field); \
} while (/*CONSTCOND*/ 0)

#define SPLAY_ASSEMBLE(head, node, left, right, field) do { \
    SPLAY_RIGHT(left, field) = SPLAY_LEFT((head)->sph_root, field); \
    SPLAY_LEFT(right, field) = SPLAY_RIGHT((head)->sph_root, field); \
    SPLAY_LEFT((head)->sph_root, field) = SPLAY_RIGHT(node, field); \
    SPLAY_RIGHT((head)->sph_root, field) = SPLAY_LEFT(node, field); \
} while (/*CONSTCOND*/ 0)

/* Generates prototypes and inline functions */

```

```

#define
    SPLAY_PROTOTYPE(name, type, field, cmp) \
void name##_SPLAY(struct name *, struct type *); \
void name##_SPLAY_MINMAX(struct name *, int); \
struct type *name##_SPLAY_INSERT(struct name *, struct type *); \
struct type *name##_SPLAY_REMOVE(struct name *, struct type *); \
    \
/* Finds the node with the same key as elm */ \
static __inline struct type * \
name##_SPLAY_FIND(struct name *head, struct type *elm) \
{ \
    if (SPLAY_EMPTY(head)) \
        return(NULL); \
    name##_SPLAY(head, elm); \
    if ((cmp)(elm, (head)->sph_root) == 0) \
        return (head->sph_root); \
    return (NULL); \
} \
    \
static __inline _sys_tree_h_unused struct type * \
name##_SPLAY_NEXT(struct name *head, struct type *elm) \
{ \
    name##_SPLAY(head, elm); \
    if (SPLAY_RIGHT(elm, field) != NULL) { \
        elm = SPLAY_RIGHT(elm, field); \
        while (SPLAY_LEFT(elm, field) != NULL) { \
            elm = SPLAY_LEFT(elm, field); \
        } \
    } \
    else \
        elm = NULL; \
    return (elm); \
} \
    \
static _sys_tree_h_unused __inline struct type * \
name##_SPLAY_MIN_MAX(struct name *head, int val) \
{ \
    name##_SPLAY_MINMAX(head, val); \
    return (SPLAY_ROOT(head)); \
}

/* Main splay operation.
 * Moves node close to the key of elm to top
 */
#define SPLAY_GENERATE(name, type, field, cmp) \
struct type * \
name##_SPLAY_INSERT(struct name *head, struct type *elm) \
{ \

```

```

if (SPLAY_EMPTY(head)) { \
    SPLAY_LEFT(elm, field) = SPLAY_RIGHT(elm, field) = NULL; \
} else { \
    int __comp; \
    name##_SPLAY(head, elm); \
    __comp = (cmp)(elm, (head)->sph_root); \
    if(__comp < 0) { \
        SPLAY_LEFT(elm, field) = SPLAY_LEFT((head)->sph_root, field);\
        SPLAY_RIGHT(elm, field) = (head)->sph_root; \
        SPLAY_LEFT((head)->sph_root, field) = NULL; \
    } else if (__comp > 0) { \
        SPLAY_RIGHT(elm,
field) = SPLAY_RIGHT((head)->sph_root, field);\
        SPLAY_LEFT(elm, field) = (head)->sph_root; \
        SPLAY_RIGHT((head)->sph_root, field) = NULL; \
    } else \
        return ((head)->sph_root); \
    } \
    (head)->sph_root = (elm); \
    return (NULL); \
} \
\
struct type * \
name##_SPLAY_REMOVE(struct name *head, struct type *elm) \
{ \
    struct type *__tmp; \
    if (SPLAY_EMPTY(head)) \
        return (NULL); \
    name##_SPLAY(head, elm); \
    if ((cmp)(elm, (head)->sph_root) == 0) { \
        if (SPLAY_LEFT((head)->sph_root, field) == NULL) { \
            (head)->sph_root = SPLAY_RIGHT((head)->sph_root, field);\
        } else { \
            __tmp = SPLAY_RIGHT((head)->sph_root, field); \
            (head)->sph_root = SPLAY_LEFT((head)->sph_root, field);\
            name##_SPLAY(head, elm); \
            SPLAY_RIGHT((head)->sph_root, field) = __tmp; \
        } \
        return (elm); \
    } \
    return (NULL); \
} \
\
void \
name##_SPLAY(struct
name *head, struct type *elm) \
{ \
    struct type __node, *__left, *__right, *__tmp; \

```



```

int __comp;    \
\
SPLAY_LEFT(&__node, field) = SPLAY_RIGHT(&__node, field) = NULL;\
__left = __right = &__node;    \
\
while ((__comp = (cmp)(elm, (head)->sph_root)) != 0) { \
    if (__comp < 0) { \
        __tmp = SPLAY_LEFT((head)->sph_root, field);\
        if (__tmp == NULL) \
            break; \
        if ((cmp)(elm, __tmp) < 0){ \
            SPLAY_ROTATE_RIGHT(head, __tmp, field);\
            if (SPLAY_LEFT((head)->sph_root, field) == NULL)\
                break; \
        } \
        SPLAY_LINKLEFT(head, __right, field); \
    } else if (__comp > 0) { \
        __tmp = SPLAY_RIGHT((head)->sph_root, field);\
        if (__tmp == NULL) \
            break; \
        if ((cmp)(elm, __tmp) > 0){ \
            SPLAY_ROTATE_LEFT(head, __tmp, field);\
            if (SPLAY_RIGHT((head)->sph_root, field) == NULL)\
                break; \
        } \
        SPLAY_LINKRIGHT(head, __left, field); \
    } \
} \
SPLAY_ASSEMBLE(head,
&__node, __left, __right, field); \
} \
\
/* Splay with either the minimum or the maximum element \
* Used to find minimum or maximum element in tree. \
*/ \
void name##_SPLAY_MINMAX(struct name *head, int __comp) \
{ \
    struct type __node, *__left, *__right, *__tmp; \
    \
    SPLAY_LEFT(&__node, field) = SPLAY_RIGHT(&__node, field) = NULL;\
    __left = __right = &__node;    \
    \
    while (1) { \
        if (__comp < 0) { \
            __tmp = SPLAY_LEFT((head)->sph_root, field);\
            if (__tmp == NULL) \
                break; \
            if (__comp < 0){ \

```

```

    SPLAY_ROTATE_RIGHT(head, __tmp, field); \
    if (SPLAY_LEFT((head)->sph_root, field) == NULL)\
        break; \
} \
SPLAY_LINKLEFT(head, __right, field); \
} else if (__comp > 0) { \
    __tmp = SPLAY_RIGHT((head)->sph_root, field); \
    if (__tmp == NULL) \
        break; \
    if (__comp > 0) { \
        SPLAY_ROTATE_LEFT(head, __tmp, field); \
        if (SPLAY_RIGHT((head)->sph_root,
field) == NULL)\
            break; \
    } \
    SPLAY_LINKRIGHT(head, __left, field); \
} \
} \
SPLAY_ASSEMBLE(head, &__node, __left, __right, field); \
}

#define SPLAY_NEGINF -1
#define SPLAY_INF 1

#define SPLAY_INSERT(name, x, y) name##_SPLAY_INSERT(x, y)
#define SPLAY_REMOVE(name, x, y) name##_SPLAY_REMOVE(x, y)
#define SPLAY_FIND(name, x, y) name##_SPLAY_FIND(x, y)
#define SPLAY_NEXT(name, x, y) name##_SPLAY_NEXT(x, y)
#define SPLAY_MIN(name, x) (SPLAY_EMPTY(x) ? NULL \
    : name##_SPLAY_MIN_MAX(x, SPLAY_NEGINF))
#define SPLAY_MAX(name, x) (SPLAY_EMPTY(x) ? NULL \
    : name##_SPLAY_MIN_MAX(x, SPLAY_INF))

#define SPLAY_FOREACH(x, name, head) \
    for ((x) = SPLAY_MIN(name, head); \
        (x) != NULL; \
        (x) = SPLAY_NEXT(name, head, x))

/* Macros that define a red-black tree */
#define RB_HEAD(name, type) \
    struct name { \
        struct type *rbh_root; /* root of the tree */ \
    }

#define RB_INITIALIZER(root) \
    { \
        NULL \
    }

```

```

#define RB_INIT(root) do { \
    (root)->rbh_root = NULL; \
} while (/*CONSTCOND*/ 0)

#define RB_BLACK 0
#define RB_RED 1
#define RB_ENTRY(type) \
struct { \
    struct type *rbe_left; /* left element */ \
    struct type *rbe_right; /* right element */ \
    struct type *rbe_parent; /* parent element */ \
    int rbe_color; /* node color */ \
}

#define RB_LEFT(elm, field) (elm)->field.rbe_left
#define RB_RIGHT(elm, field) (elm)->field.rbe_right
#define RB_PARENT(elm, field) (elm)->field.rbe_parent
#define RB_COLOR(elm, field) (elm)->field.rbe_color
#define RB_ROOT(head) (head)->rbh_root
#define RB_EMPTY(head) (RB_ROOT(head) == NULL)

#define RB_SET(elm, parent, field) do { \
    RB_PARENT(elm, field) = parent; \
    RB_LEFT(elm, field) = RB_RIGHT(elm, field) = NULL; \
    RB_COLOR(elm, field) = RB_RED; \
} while (/*CONSTCOND*/ 0)

#define RB_SET_BLACKRED(black, red, field) do { \
    RB_COLOR(black, field) = RB_BLACK; \
    RB_COLOR(red, field) \
    = RB_RED; \
} while (/*CONSTCOND*/ 0)

#ifndef RB_AUGMENT
#define RB_AUGMENT(x) do {} while (/*CONSTCOND*/ 0)
#endif

#define RB_ROTATE_LEFT(head, elm, tmp, field) do { \
    (tmp) = RB_RIGHT(elm, field); \
    if ((RB_RIGHT(elm, field) = RB_LEFT(tmp, field)) != NULL) { \
        RB_PARENT(RB_LEFT(tmp, field), field) = (elm); \
    } \
    RB_AUGMENT(elm); \
    if ((RB_PARENT(tmp, field) = RB_PARENT(elm, field)) != NULL) { \
        if ((elm) == RB_LEFT(RB_PARENT(elm, field), field)) \
            RB_LEFT(RB_PARENT(elm, field), field) = (tmp); \
        else \
            RB_RIGHT(RB_PARENT(elm, field), field) = (tmp); \
    } \
} while (/*CONSTCOND*/ 0)

```

```

} else    \
    (head)->rbh_root = (tmp);    \
    RB_LEFT(tmp, field) = (elm);    \
    RB_PARENT(elm, field) = (tmp);    \
    RB_AUGMENT(tmp);    \
    if ((RB_PARENT(tmp, field)))    \
        RB_AUGMENT(RB_PARENT(tmp, field));    \
} while (/*CONSTCOND*/ 0)

#define RB_ROTATE_RIGHT(head, elm, tmp, field) do {    \
    (tmp) = RB_LEFT(elm, field);    \
    if ((RB_LEFT(elm, field) = RB_RIGHT(tmp, field))    \
        != NULL) {    \
        RB_PARENT(RB_RIGHT(tmp, field), field) = (elm);    \
    }    \
    RB_AUGMENT(elm);    \
    if ((RB_PARENT(tmp, field) = RB_PARENT(elm, field)) != NULL) {    \
        if ((elm) == RB_LEFT(RB_PARENT(elm, field), field))    \
            RB_LEFT(RB_PARENT(elm, field), field) = (tmp);    \
        else    \
            RB_RIGHT(RB_PARENT(elm, field), field) = (tmp);    \
    } else    \
        (head)->rbh_root = (tmp);    \
    RB_RIGHT(tmp, field) = (elm);    \
    RB_PARENT(elm, field) = (tmp);    \
    RB_AUGMENT(tmp);    \
    if ((RB_PARENT(tmp, field)))    \
        RB_AUGMENT(RB_PARENT(tmp, field));    \
} while (/*CONSTCOND*/ 0)

/* Generates prototypes and inline functions */
#define RB_PROTOTYPE(name, type, field, cmp)    \
    RB_PROTOTYPE_INTERNAL(name, type, field, cmp,)
#define RB_PROTOTYPE_STATIC(name, type, field, cmp)    \
    RB_PROTOTYPE_INTERNAL(name, type, field, cmp, _sys_tree_h_unused static)
#define RB_PROTOTYPE_INTERNAL(name, type, field, cmp, attr)    \
    attr void name##_RB_INSERT_COLOR(struct name *, struct    \
    type *);    \
    attr void name##_RB_REMOVE_COLOR(struct name *, struct type *, struct type *);    \
    attr struct type *name##_RB_REMOVE(struct name *, struct type *);    \
    attr struct type *name##_RB_INSERT(struct name *, struct type *);    \
    attr struct type *name##_RB_FIND(struct name *, struct type *);    \
    attr struct type *name##_RB_NFIND(struct name *, struct type *);    \
    attr struct type *name##_RB_NEXT(struct type *);    \
    attr struct type *name##_RB_PREV(struct type *);    \
    attr struct type *name##_RB_MINMAX(struct name *, int);    \
    \

```

```

/* Main rb operation.
 * Moves node close to the key of elm to top
 */
#define RB_GENERATE(name, type, field, cmp) \
    RB_GENERATE_INTERNAL(name, type, field, cmp,)
#define RB_GENERATE_STATIC(name, type, field, cmp) \
    RB_GENERATE_INTERNAL(name, type, field, cmp, _sys_tree_h_unused static)
#define RB_GENERATE_INTERNAL(name, type, field, cmp, attr) \
    attr void \
    name##_RB_INSERT_COLOR(struct name *head, struct type *elm) \
    { \
        \
        struct type \
        *parent, *gparent, *tmp; \
        while ((parent = RB_PARENT(elm, field)) != NULL && \
            RB_COLOR(parent, field) == RB_RED) { \
            gparent = RB_PARENT(parent, field); \
            if (parent == RB_LEFT(gparent, field)) { \
                tmp = RB_RIGHT(gparent, field); \
                if (tmp && RB_COLOR(tmp, field) == RB_RED) { \
                    RB_COLOR(tmp, field) = RB_BLACK; \
                    RB_SET_BLACKRED(parent, gparent, field);\
                    elm = gparent; \
                    continue; \
                } \
                if (RB_RIGHT(parent, field) == elm) { \
                    RB_ROTATE_LEFT(head, parent, tmp, field);\
                    tmp = parent; \
                    parent = elm; \
                    elm = tmp; \
                } \
                RB_SET_BLACKRED(parent, gparent, field); \
                RB_ROTATE_RIGHT(head, gparent, tmp, field); \
            } else { \
                tmp = RB_LEFT(gparent, field); \
                if (tmp && RB_COLOR(tmp, field) == RB_RED) { \
                    RB_COLOR(tmp, field) = RB_BLACK; \
                    RB_SET_BLACKRED(parent, gparent, field);\
                    elm = gparent; \
                    continue; \
                } \
                if (RB_LEFT(parent, field) == elm) \
            { \
                RB_ROTATE_RIGHT(head, parent, tmp, field);\
                tmp = parent; \
                parent = elm; \
                elm = tmp; \
            } \
            RB_SET_BLACKRED(parent, gparent, field); \

```

```

    RB_ROTATE_LEFT(head, gparent, tmp, field); \
} \
} \
RB_COLOR(head->rbh_root, field) = RB_BLACK; \
} \
\
attr void \
name##_RB_REMOVE_COLOR(struct name *head, struct type *parent, struct type *elm) \
{ \
    struct type *tmp; \
    while ((elm == NULL || RB_COLOR(elm, field) == RB_BLACK) && \
        elm != RB_ROOT(head)) { \
        if (RB_LEFT(parent, field) == elm) { \
            tmp = RB_RIGHT(parent, field); \
            if (RB_COLOR(tmp, field) == RB_RED) { \
                RB_SET_BLACKRED(tmp, parent, field); \
                RB_ROTATE_LEFT(head, parent, tmp, field); \
                tmp = RB_RIGHT(parent, field); \
            } \
            if ((RB_LEFT(tmp, field) == NULL || \
                RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) && \
                (RB_RIGHT(tmp, field) == NULL || \
                RB_COLOR(RB_RIGHT(tmp, field), field) == RB_BLACK)) { \
                RB_COLOR(tmp, field) = RB_RED; \
                elm = parent; \
                parent = RB_PARENT(elm, field); \
            } else { \
                if (RB_RIGHT(tmp, field) == NULL || \
                    RB_COLOR(RB_RIGHT(tmp, field), field) == RB_BLACK) { \
                    struct type *oleft; \
                    if ((oleft = RB_LEFT(tmp, field)) \
                        != NULL) \
                        RB_COLOR(oleft, field) = RB_BLACK; \
                    RB_COLOR(tmp, field) = RB_RED; \
                    RB_ROTATE_RIGHT(head, tmp, oleft, field); \
                    tmp = RB_RIGHT(parent, field); \
                } \
                RB_COLOR(tmp, field) = RB_COLOR(parent, field); \
                RB_COLOR(parent, field) = RB_BLACK; \
                if (RB_RIGHT(tmp, field)) \
                    RB_COLOR(RB_RIGHT(tmp, field), field) = RB_BLACK; \
                RB_ROTATE_LEFT(head, parent, tmp, field); \
                elm = RB_ROOT(head); \
                break; \
            } \
        } else { \
            tmp = RB_LEFT(parent, field); \

```

```

if (RB_COLOR(tmp, field) == RB_RED) { \
    RB_SET_BLACKRED(tmp, parent, field); \
    RB_ROTATE_RIGHT(head, parent, tmp, field);\
    tmp
= RB_LEFT(parent, field); \
} \
if ((RB_LEFT(tmp, field) == NULL || \
    RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) &&\
    (RB_RIGHT(tmp, field) == NULL || \
    RB_COLOR(RB_RIGHT(tmp, field), field) == RB_BLACK)) {\
    RB_COLOR(tmp, field) = RB_RED; \
    elm = parent; \
    parent = RB_PARENT(elm, field); \
} else { \
    if (RB_LEFT(tmp, field) == NULL || \
        RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) {\
        struct type *oright; \
        if ((oright = RB_RIGHT(tmp, field)) \
            != NULL) \
            RB_COLOR(oright, field) = RB_BLACK;\
        RB_COLOR(tmp, field) = RB_RED; \
        RB_ROTATE_LEFT(head, tmp, oright, field);\
        tmp = RB_LEFT(parent, field); \
    } \
    RB_COLOR(tmp, field) = RB_COLOR(parent, field);\
    RB_COLOR(parent, field) = RB_BLACK; \
    if (RB_LEFT(tmp, field)) \
        RB_COLOR(RB_LEFT(tmp, field), field) = RB_BLACK;\
    RB_ROTATE_RIGHT(head, parent, tmp, field);\
    elm = RB_ROOT(head); \
    break; \
} \
} \
} \
if
(elm) \
    RB_COLOR(elm, field) = RB_BLACK; \
} \
\
attr struct type * \
name##_RB_REMOVE(struct name *head, struct type *elm) \
{ \
    struct type *child, *parent, *old = elm; \
    int color; \
    if (RB_LEFT(elm, field) == NULL) \
        child = RB_RIGHT(elm, field); \
    else if (RB_RIGHT(elm, field) == NULL) \
        child = RB_LEFT(elm, field); \

```

```

else {
    struct type *left;
    elm = RB_RIGHT(elm, field);
    while ((left = RB_LEFT(elm, field)) != NULL)
        elm = left;
    child = RB_RIGHT(elm, field);
    parent = RB_PARENT(elm, field);
    color = RB_COLOR(elm, field);
    if (child)
        RB_PARENT(child, field) = parent;
    if (parent) {
        if (RB_LEFT(parent, field) == elm)
            RB_LEFT(parent, field) = child;
        else
            RB_RIGHT(parent, field) = child;
        RB_AUGMENT(parent);
    } else
        RB_ROOT(head)
= child;
    if (RB_PARENT(elm, field) == old)
        parent = elm;
    (elm)->field = (old)->field;
    if (RB_PARENT(old, field)) {
        if (RB_LEFT(RB_PARENT(old, field), field) == old)
            RB_LEFT(RB_PARENT(old, field), field) = elm;
        else
            RB_RIGHT(RB_PARENT(old, field), field) = elm;
        RB_AUGMENT(RB_PARENT(old, field));
    } else
        RB_ROOT(head) = elm;
    RB_PARENT(RB_LEFT(old, field), field) = elm;
    if (RB_RIGHT(old, field))
        RB_PARENT(RB_RIGHT(old, field), field) = elm;
    if (parent) {
        left = parent;
        do {
            RB_AUGMENT(left);
        } while ((left = RB_PARENT(left, field)) != NULL);
    }
    goto color;
}
parent = RB_PARENT(elm, field);
color = RB_COLOR(elm, field);
if (child)
    RB_PARENT(child, field) = parent;
if (parent) {
    if (RB_LEFT(parent, field) == elm)
        RB_LEFT(parent, field) = child;

```



```

else    \
    RB_RIGHT(parent,
field) = child; \
    RB_AUGMENT(parent); \
} else    \
    RB_ROOT(head) = child; \
color:    \
if (color == RB_BLACK)    \
    name##_RB_REMOVE_COLOR(head, parent, child); \
return (old);    \
}    \
    \
/* Inserts a node into the RB tree */ \
attr struct type *    \
name##_RB_INSERT(struct name *head, struct type *elm) \
{    \
    struct type *tmp;    \
    struct type *parent = NULL; \
    int comp = 0;    \
    tmp = RB_ROOT(head);    \
    while (tmp) {    \
        parent = tmp;    \
        comp = (cmp)(elm, parent); \
        if (comp < 0)    \
            tmp = RB_LEFT(tmp, field); \
        else if (comp > 0)    \
            tmp = RB_RIGHT(tmp, field); \
        else    \
            return (tmp); \
    }    \
    RB_SET(elm, parent, field); \
    if (parent != NULL) {    \
        if (comp < 0)    \
            RB_LEFT(parent, field) = elm; \
        else    \
            RB_RIGHT(parent, field) = elm; \
        RB_AUGMENT(parent); \
    } else    \
        RB_ROOT(head) = elm; \
    name##_RB_INSERT_COLOR(head,
elm); \
    return (NULL);    \
}    \
    \
/* Finds the node with the same key as elm */ \
attr struct type *    \
name##_RB_FIND(struct name *head, struct type *elm) \
{    \

```

```

struct type *tmp = RB_ROOT(head); \
int comp; \
while (tmp) { \
    comp = cmp(elm, tmp); \
    if (comp < 0) \
        tmp = RB_LEFT(tmp, field); \
    else if (comp > 0) \
        tmp = RB_RIGHT(tmp, field); \
    else \
        return (tmp); \
} \
return (NULL); \
} \
\
/* Finds the first node greater than or equal to the search key */\
attr struct type * \
name##_RB_NFIND(struct name *head, struct type *elm) \
{ \
    struct type *tmp = RB_ROOT(head); \
    struct type *res = NULL; \
    int comp; \
    while (tmp) { \
        comp = cmp(elm, tmp); \
        if (comp < 0) { \
            res = tmp; \
            tmp = RB_LEFT(tmp, field); \
        } \
        else if (comp > 0) \
            tmp = \
RB_RIGHT(tmp, field); \
        else \
            return (tmp); \
    } \
    return (res); \
} \
\
/* ARGSUSED */ \
attr struct type * \
name##_RB_NEXT(struct type *elm) \
{ \
    if (RB_RIGHT(elm, field)) { \
        elm = RB_RIGHT(elm, field); \
        while (RB_LEFT(elm, field)) \
            elm = RB_LEFT(elm, field); \
    } else { \
        if (RB_PARENT(elm, field) && \
            (elm == RB_LEFT(RB_PARENT(elm, field), field))) \
            elm = RB_PARENT(elm, field); \
    } \
}

```

```

else {
    while (RB_PARENT(elm, field) &&
        (elm == RB_RIGHT(RB_PARENT(elm, field), field)))
        elm = RB_PARENT(elm, field);
    elm = RB_PARENT(elm, field);
}

return (elm);

/* ARGSUSED */
attr struct type *
name##_RB_PREV(struct type *elm)
{
    if (RB_LEFT(elm, field)) {
        elm = RB_LEFT(elm, field);
        while (RB_RIGHT(elm, field))
            elm = RB_RIGHT(elm, field);
    }
    else {
        if (RB_PARENT(elm, field) &&
            (elm == RB_RIGHT(RB_PARENT(elm, field), field)))
            elm = RB_PARENT(elm, field);
        else {
            while (RB_PARENT(elm, field) &&
                (elm == RB_LEFT(RB_PARENT(elm, field), field)))
                elm = RB_PARENT(elm, field);
            elm = RB_PARENT(elm, field);
        }
    }
    return (elm);
}

attr struct type *
name##_RB_MINMAX(struct name *head, int val)
{
    struct type *tmp = RB_ROOT(head);
    struct type *parent = NULL;
    while (tmp) {
        parent = tmp;
        if (val < 0)
            tmp = RB_LEFT(tmp, field);
        else
            tmp = RB_RIGHT(tmp, field);
    }
    return (parent);
}

```

```

#define RB_NEGINF -1
#define RB_INF 1

#define RB_INSERT(name, x, y) name##_RB_INSERT(x, y)
#define RB_REMOVE(name, x, y) name##_RB_REMOVE(x, y)
#define RB_FIND(name, x, y) name##_RB_FIND(x, y)
#define RB_NFIND(name, x, y) name##_RB_NFIND(x,
y)
#define RB_NEXT(name, x, y) name##_RB_NEXT(y)
#define RB_PREV(name, x, y) name##_RB_PREV(y)
#define RB_MIN(name, x) name##_RB_MINMAX(x, RB_NEGINF)
#define RB_MAX(name, x) name##_RB_MINMAX(x, RB_INF)

#define RB_FOREACH(x, name, head) \
for ((x) = RB_MIN(name, head); \
(x) != NULL; \
(x) = name##_RB_NEXT(x))

#define RB_FOREACH_FROM(x, name, y) \
for ((x) = (y); \
((x) != NULL) && ((y) = name##_RB_NEXT(x), (x) != NULL); \
(x) = (y))

#define RB_FOREACH_SAFE(x, name, head, y) \
for ((x) = RB_MIN(name, head); \
((x) != NULL) && ((y) = name##_RB_NEXT(x), (x) != NULL); \
(x) = (y))

#define RB_FOREACH_REVERSE(x, name, head) \
for ((x) = RB_MAX(name, head); \
(x) != NULL; \
(x) = name##_RB_PREV(x))

#define RB_FOREACH_REVERSE_FROM(x, name, y) \
for ((x) = (y); \
((x) != NULL) && ((y) = name##_RB_PREV(x), (x) != NULL); \
(x) = (y))

#define RB_FOREACH_REVERSE_SAFE(x, name,
head, y) \
for ((x) = RB_MAX(name, head); \
((x) != NULL) && ((y) = name##_RB_PREV(x), (x) != NULL); \
(x) = (y))

#endif /* _SYS_TREE_H_ */
pkgname=linux-headers
pkgver=6.14.2 # Follow the latest Linux stable
_kernver=${pkgver%.*}

```

```
pkgrel=0
pkgdesc="Linux system headers"
url="https://kernel.org/"
arch="all" # Headers are architecture specific
license="GPL-2.0-only"
makedepends="perl"
options="!check !dbg !strip !tracedeps !archcheck"
source="https://kernel.org/pub/linux/kernel/v6.x/linux-$_kernver.tar.xz
revert-broken-uapi.patch
0003-remove-inclusion-of-sysinfo.h-in-kernel.h.patch
```

1.9 confluentinc-confluent-kafka-go 2.11.1

1.9.1 Available under license :

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librdkafka - Apache Kafka C driver library

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/* crc32c.c -- compute CRC-32C using the Intel crc32 instruction
* Copyright (C) 2013 Mark Adler
* Version 1.1 1 Aug 2013 Mark Adler
*/

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*/

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parts of src/rdfnv1a.c: http://www.isthe.com/chongo/src/fnv/hash_32a.c

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at revision 3a0bb77429bd3a61596f5e8a3172445844342120

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src/rdxhash.[ch] src/lz4*.[ch]: git@github.com:lz4/lz4.git 5ff839680134437dbf4678f3d0c7b371d84f4964

LZ4 Library

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parts of src/rdmurmur2.c: git@github.com:abandoned/murmur2.git

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1.12 libcap 2.76-r0

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1.17 utmps 0.1.3.1-r0

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Version 2, June 1991

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```

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```
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under certain conditions; type `show c' for details.
```

The hypothetical commands

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<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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```
# Automatically generated by apkbuidl-cpan, template 4
# Contributor: Valery Kartel <valery.kartel@gmail.com>
# Maintainer: Celeste <cielesti@protonmail.com>
maintainer="Celeste <cielesti@protonmail.com>"
pkgname=perl-bsd-resource
pkgver=1.2911
pkgrel=10
#_pkgreal is used by apkbuidl-cpan to find modules at MetaCpan
_pkgreal=BSD-Resource
pkgdesc="Perl extension implements the BSD process resource limit functions"
url="https://metacpan.org/release/BSD-Resource/"
arch="all"
license="Artistic-2.0 OR LGPL-2.0"
depends="perl"
makedepends="perl-dev"
subpackages="$pkgname-doc"
source="https://cpan.metacpan.org/authors/id/J/JH/JHI/BSD-Resource-$pkgver.tar.gz"
buildid=" $srcdir/$_pkgreal-$pkgver"
```

```
build() {
    export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
    PERL_MM_USE_DEFAULT=1 perl -I. Makefile.PL \
        INSTALLDIRS=vendor \
        NO_PACKLIST=1 \
        NO_PERLLOCAL=1
    make
}
```

```
check() {
    export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
```



```

make test
}

package() {
make DESTDIR="$pkgdir" install
}

sha512sums="
d0032d41c7c0468ed1c6d8f57b885f6cb97a5039d754c8cb60b2067daedaf53bd15fb6561a3d0f828df16dfa5417f663b
8065ba65f4fea16dc9262728b3b6b85
  BSD-Resource-1.2911.tar.gz
"

# Contributor: Maxim Karasev <begs@disroot.org>
# Maintainer: mio <miyopan@e.email>
pkgname=bsd-games
pkgver=3.3
pkgrel=2
pkgdesc="traditional text mode games from BSD"
url="https://bsd-games.sourceforge.io/"
arch="all"
license="BSD-3-Clause"
install="$pkgname.post-install"
makedepends="ncurses-dev coreutils" # configure causes busybox expr error
subpackages="$pkgname-doc"
source="https://sourceforge.net/projects/bsd-games/files/bsd-games-$pkgver.tar.gz
0001-bsd-games-scores-dir.patch
"

options="!check" # no tests

build() {
# some GNU autoconf options are ignored, but it works
./configure \
--build=$CBUILD \
--host=$CHOST \
--prefix=/usr \
--sysconfdir=/etc \
--mandir=/usr/share/man \
--scoredir=/usr/share/$pkgname
make
}

package() {
make DESTDIR="$pkgdir" install
install -Dm644 LICENSE "$pkgdir"/usr/share/licenses/bsd-games/LICENSE
}

sha512sums="
aaf36d09d4fe68514a5c279063d7e77a9a9a84c447037cba974b29faa07eb80c2aab2379d0699c196b5c27ffe1b2bb2c6

```

8d3390143e0e62d5e3d210ccfb61294

bsd-games-3.3.tar.gz

e1def0d4835a877242c4173fae862e278a7858738e0bacacbb045a42bcabec2aa7c72d000bbd2421ce35fe66cdc1f52c0
577b7e278029ca5ed50f7aab22319f6 0001-bsd-games-scores-dir.patch

"

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Maintainer: Natanael Copa <ncopa@alpinelinux.org>

pkgname=libart-lgpl

pkgver=2.3.21

pkgrel=8

pkgdesc="A library for high-performance 2D graphics"

url="https://www.levien.com/libart/"

arch="all"

options="!check" # No test suite.

license="LGPL-2.0-or-later"

subpackages="\$pkgname-dev"

source="https://download.gnome.org/sources/libart-lgpl/2.3/libart-lgpl-\$pkgver.tar.bz2"

"

builddir="\$srcdir"/libart-lgpl-\$pkgver

```
prepare() {  
    update_config_sub  
    default_prepare  
}
```

```
build() {
```

```

./configure \
--build=$CBUILD \
--host=$CHOST \
--prefix=/usr
make
}

package() {
make DESTDIR="$pkgdir" install
}

sha512sums="8a632a6a4da59e5e8c02ec2f5a57e36d182b325b46513765425e5f171ff9ae326af1b133725beba28f7e7
6654309e001aee9bace727b5b4c8589405256a3c020 libart_lgpl-2.3.21.tar.bz2"
mini_sendmail - accept email on behalf of real sendmail

```

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Contributor: Carlo Landmeter <clandmeter@alpinelinux.org>

Maintainer: Kevin Daudt <kdaudt@alpinelinux.org>

pkgname=spdx-licenses

pkgver=3.26.0

pkgrel=0

pkgdesc="Various data formats for the SPDX License List"

url="https://spdx.org/"

arch="noarch"

options="!check" # no test suite

```

license="CC-BY-3.0"
source="license-list-data-$pkgver.tar.gz::https://github.com/spdx/license-list-data/archive/v$pkgver.tar.gz"
builddir="$srcdir/license-list-data-$pkgver"
subpackages="$pkgname-list"

_types="html json rdfa rdft rdfturtle rdFXML template text"

for type in $_types; do
    subpackages="$subpackages $pkgname-$type:_subpkg"
done

package() {
    mkdir -p "$pkgdir"
}

_subpkg() {
    local type=${subpkgname/$pkgname-/}
    pkgdesc="$pkgdesc ($type)"
    install_if="$pkgname=$pkgver-r$pkgrel"
    mkdir -p "$subpkgdir"/usr/share/spdx
    cp -r "$builddir"/$type "$subpkgdir"/usr/share/spdx/
}

list() {
    pkgdesc="$pkgdesc (licence list)"
    mkdir -p "$subpkgdir"/usr/share/spdx
    local i; for i in "$builddir"/text/*.txt;
    do
        local license=${i##*/}
        echo ${license%.*} >> "$subpkgdir"/usr/share/spdx/license.lst
    done
}

sha512sums="
67e618d4642dfe4f366935d9514d6f7941d3711e77c49bc1b340ac572d36015981b8f10c72a9f80f1d83e132ae7e5093c
0155e0c0e786e4777ee16d1cb7b885a license-list-data-3.26.0.tar.gz
"

# Contributor: Patrycja Rosa <alpine@ptrcnll.me>
# Maintainer: Patrycja Rosa <alpine@ptrcnll.me>
pkgname=bsd-compat-headers
pkgver=0.7.2
pkgrel=6
pkgdesc="BSD compatibility headers (cdefs, queue, tree)"
url="https://gitlab.alpinelinux.org/alpine/aports"
arch="noarch"
license="BSD-2-Clause AND BSD-3-Clause"
source="
cdefs.h

```

```

queue.h
tree.h
"

builddir="$srcdir"
options="!check" # just headers

package() {
    mkdir -p "$pkgdir"
    install -Dm644 -t "$pkgdir"/usr/include/sys \
        cdefs.h queue.h tree.h
}
sha512sums="
37c8fc73c7aea7b490f7850927e2bb91d12137c9e59e22c084146d515696dbc7973b5de92f4c987ba080dd2502ba8312
7006442c3f019b6447a620c0cae73178 cdefs.h
2f0d5e6e4dc3350285cf17009265dddcbe12431c111868eea39bc8cb038ab7c1f2acacbb21735c4e9d4a1fd106a8fc0f86
11ea33987d4faba37dde5ce6da0750 queue.h
d9ac210d81feb8ad2655bc80fb065d3fe20ae4417b32b4a1711e6738a4870140005c13373b5d1846ef3ce5ae6da45f2da
cef2092881eded0a2e94f6a07752ef3 tree.h
"

```

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The Kohonen neural network code for color optimization was written by Anthony Dekker.

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The X-Spline code was written Carole Blanc (blanc@labri.u-bordeaux.fr) and Christophe Schlick (schlick@labri.u-bordeaux.fr) starting from an initial implementation done by C. Feuille, S. Grosbois, L. Maziere and L. Minihot as a student practice (Universite Bordeaux, France). For additional information about X-splines, see:

"X-Splines: A Spline Model Designed for the End User" by C. Blanc and C. Schlick, Proceedings of SIGGRAPH'95
<http://dept-info.labri.u-bordeaux.fr/~schlick/DOC/sig1.html>

```

# Contributor: Dhruvin Gandhi <contact@dhruvin>
# Maintainer: Patrycja Rosa <alpine@ptrcnull.me>
pkgname=py3-license-expression
_pkgname=license_expression
pkgver=30.4.1
pkgrel=0
pkgdesc="Library to parse, compare, simplify and normalize license expressions"
url="https://github.com/nexB/license-expression"
arch="noarch"
license="Apache-2.0"
depends="python3 py3-boolean.py"
makedepends="py3-setuptools py3-setuptools_scm py3-gp517 py3-wheel"
checkdepends="py3-pytest py3-pytest-xdist"
subpackages="$pkgname-pyc"
source="https://files.pythonhosted.org/packages/source/l/_pkgname/_pkgname-$pkgver.tar.gz"
builddir="$srcdir/$_pkgname-$pkgver"

build() {
    gp517 build-wheel \
        --wheel-dir .dist \
        --output-fd 3 3>&1 >&2
}

check() {
    python3 -m venv --clear --without-pip --system-site-packages .testenv
    .testenv/bin/python3 -m installer .dist/*.whl
    .testenv/bin/python3 -m pytest
}

package() {
    python3 -m installer -d "$pkgdir" \
        .dist/*.whl
}

sha512sums="
114c630f098939757e49187e35b4e54883266a2ee9ca283724992420ef4c860f9606a8342da0ab74d93627c10805f312
fda3f699cbc7c4fbd47a71e220440fb0
    license_expression-30.4.1.tar.gz
"

/* $NetBSD: queue.h,v 1.70 2015/11/02 15:21:23 christos Exp $ */

/*
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- *
- * @(#)queue.h 8.5 (Berkeley) 8/20/94
- */

```
#ifndef _SYS_QUEUE_H_
#define _SYS_QUEUE_H_
```

```
/*
 * This file defines five types of data structures: singly-linked lists,
 * lists, simple queues, tail queues, and circular queues.
 *
 * A singly-linked list is headed by a single forward pointer. The
 * elements are singly linked for minimum space and
 * pointer manipulation
 * overhead at the expense of O(n) removal for arbitrary elements. New
 * elements can be added to the list after an existing element or at the
 * head of the list. Elements being removed from the head of the list
 * should use the explicit macro for this purpose for optimum
 * efficiency. A singly-linked list may only be traversed in the forward
 * direction. Singly-linked lists are ideal for applications with large
 * datasets and few or no removals or for implementing a LIFO queue.
 *
 * A list is headed by a single forward pointer (or an array of forward
 * pointers for a hash table header). The elements are doubly linked
 * so that an arbitrary element can be removed without a need to
 * traverse the list. New elements can be added to the list before
 * or after an existing element or at the head of the list. A list
```

- * may only be traversed in the forward direction.
- *
- * A simple queue is headed by a pair of pointers, one the head of the
- * list and the
- other to the tail of the list. The elements are singly
- * linked to save space, so elements can only be removed from the
- * head of the list. New elements can be added to the list after
- * an existing element, at the head of the list, or at the end of the
- * list. A simple queue may only be traversed in the forward direction.
- *
- * A tail queue is headed by a pair of pointers, one to the head of the
- * list and the other to the tail of the list. The elements are doubly
- * linked so that an arbitrary element can be removed without a need to
- * traverse the list. New elements can be added to the list before or
- * after an existing element, at the head of the list, or at the end of
- * the list. A tail queue may be traversed in either direction.
- *
- * A circle queue is headed by a pair of pointers, one to the head of the
- * list and the other to the tail of the list. The elements are doubly
- * linked so that an arbitrary element can be removed without a need to
- * traverse the list. New elements
- can be added to the list before or after
- * an existing element, at the head of the list, or at the end of the list.
- * A circle queue may be traversed in either direction, but has a more
- * complex end of list detection.
- *
- * For details on the use of these macros, see the queue(3) manual page.
- */

```
/*
 * Include the definition of NULL only on NetBSD because sys/null.h
 * is not available elsewhere. This conditional makes the header
 * portable and it can simply be dropped verbatim into any system.
 * The caveat is that on other systems some other header
 * must provide NULL before the macros can be used.
 */
```

```
#ifdef __NetBSD__
#include <sys/null.h>
#endif
```

```
#if defined(QUEUEDEBUG)
# if defined(_KERNEL)
# define QUEUEDEBUG_ABORT(...) panic(__VA_ARGS__)
# else
# include <err.h>
# define QUEUEDEBUG_ABORT(...) err(1, __VA_ARGS__)
# endif
#endif
```



```

/*
 * Singly-linked List definitions.
 */
#define SLIST_HEAD(name, type) \
struct name { \
    struct type *slh_first; /* first \
    element */ \
}

#define SLIST_HEAD_INITIALIZER(head) \
{ NULL }

#define SLIST_ENTRY(type) \
struct { \
    struct type *sle_next; /* next element */ \
}

/*
 * Singly-linked List access methods.
 */
#define SLIST_FIRST(head) ((head)->slh_first)
#define SLIST_END(head) NULL
#define SLIST_EMPTY(head) ((head)->slh_first == NULL)
#define SLIST_NEXT(elm, field) ((elm)->field.sle_next)

#define SLIST_FOREACH(var, head, field) \
for((var) = (head)->slh_first; \
    (var) != SLIST_END(head); \
    (var) = (var)->field.sle_next)

#define SLIST_FOREACH_SAFE(var, head, field, tvar) \
for ((var) = SLIST_FIRST((head)); \
    (var) != SLIST_END(head) && \
    ((tvar) = SLIST_NEXT((var), field), 1); \
    (var) = (tvar))

/*
 * Singly-linked List functions.
 */
#define SLIST_INIT(head) do { \
    (head)->slh_first = SLIST_END(head); \
} while (/*CONSTCOND*/)

#define SLIST_INSERT_AFTER(slistelm, elm, field) do { \
    (elm)->field.sle_next = (slistelm)->field.sle_next; \
    (slistelm)->field.sle_next

```

```

= (elm); \
} while (/*CONSTCOND*/0)

#define SLIST_INSERT_HEAD(head, elm, field) do { \
    (elm)->field.sle_next = (head)->slh_first; \
    (head)->slh_first = (elm); \
} while (/*CONSTCOND*/0)

#define SLIST_REMOVE_AFTER(slistelm, field) do { \
    (slistelm)->field.sle_next = \
        SLIST_NEXT(SLIST_NEXT((slistelm), field), field); \
} while (/*CONSTCOND*/0)

#define SLIST_REMOVE_HEAD(head, field) do { \
    (head)->slh_first = (head)->slh_first->field.sle_next; \
} while (/*CONSTCOND*/0)

#define SLIST_REMOVE(head, elm, type, field) do { \
    if ((head)->slh_first == (elm)) { \
        SLIST_REMOVE_HEAD((head), field); \
    } \
    else { \
        struct type *curelm = (head)->slh_first; \
        while(curelm->field.sle_next != (elm)) \
            curelm = curelm->field.sle_next; \
        curelm->field.sle_next = \
            curelm->field.sle_next->field.sle_next; \
    } \
} while (/*CONSTCOND*/0)

/*
 * List definitions.
 */
#define LIST_HEAD(name, type) \
struct name { \
    struct type *lh_first; /* first element */ \
}

#define LIST_HEAD_INITIALIZER(head) \
{ NULL }

#define LIST_ENTRY(type) \
struct { \
    struct type *le_next; /* next element */ \
    struct type **le_prev; /* address of previous next element */ \
}

```

```

/*
 * List access methods.
 */

#define LIST_FIRST(head) ((head)->lh_first)
#define LIST_END(head) NULL
#define LIST_EMPTY(head) ((head)->lh_first == LIST_END(head))
#define LIST_NEXT(elm, field) ((elm)->field.le_next)

#define LIST_FOREACH(var, head, field) \
    for ((var) = ((head)->lh_first); \
         (var) != LIST_END(head); \
         (var) = ((var)->field.le_next))

#define LIST_FOREACH_SAFE(var, head, field, tvar) \
    for ((var) = LIST_FIRST((head)); \
         (var) != LIST_END(head) && \
         ((tvar) = LIST_NEXT((var), field), 1); \
         (var) = (tvar))

#define LIST_MOVE(head1, head2) do { \
    LIST_INIT((head2)); \
    if (!LIST_EMPTY((head1))) \
    { \
        (head2)->lh_first = (head1)->lh_first; \
        LIST_INIT((head1)); \
    } \
} while (/*CONSTCOND*/0)

/*
 * List functions.
 */

#if defined(QUEUEDEBUG)
#define QUEUEDEBUG_LIST_INSERT_HEAD(head, elm, field) \
    if ((head)->lh_first && \
        (head)->lh_first->field.le_prev != &(head)->lh_first) \
        QUEUEDEBUG_ABORT("LIST_INSERT_HEAD %p %s:%d", (head), \
            __FILE__, __LINE__);
#define QUEUEDEBUG_LIST_OP(elm, field) \
    if ((elm)->field.le_next && \
        (elm)->field.le_next->field.le_prev != \
        &(elm)->field.le_next) \
        QUEUEDEBUG_ABORT("LIST_* forw %p %s:%d", (elm), \
            __FILE__, __LINE__); \
    if (*(elm)->field.le_prev != (elm)) \
        QUEUEDEBUG_ABORT("LIST_* back %p %s:%d", (elm), \
            __FILE__, __LINE__);
#define QUEUEDEBUG_LIST_POSTREMOVE(elm, field) \
    (elm)->field.le_next = (void *)1L; \

```

```

(elm)->field.le_prev = (void *)1L;
#else
#define QUEUEDEBUG_LIST_INSERT_HEAD(head, elm, field)
#define QUEUEDEBUG_LIST_OP(elm,
    field)
#define QUEUEDEBUG_LIST_POSTREMOVE(elm, field)
#endif

#define LIST_INIT(head) do { \
    (head)->lh_first = LIST_END(head); \
} while (/*CONSTCOND*/0)

#define LIST_INSERT_AFTER(listelm, elm, field) do { \
    QUEUEDEBUG_LIST_OP((listelm), field) \
    if (((elm)->field.le_next = (listelm)->field.le_next) != \
        LIST_END(head)) \
        (listelm)->field.le_next->field.le_prev = \
            &(elm)->field.le_next; \
    (listelm)->field.le_next = (elm); \
    (elm)->field.le_prev = &(listelm)->field.le_next; \
} while (/*CONSTCOND*/0)

#define LIST_INSERT_BEFORE(listelm, elm, field) do { \
    QUEUEDEBUG_LIST_OP((listelm), field) \
    (elm)->field.le_prev = (listelm)->field.le_prev; \
    (elm)->field.le_next = (listelm); \
    *(listelm)->field.le_prev = (elm); \
    (listelm)->field.le_prev = &(elm)->field.le_next; \
} while (/*CONSTCOND*/0)

#define LIST_INSERT_HEAD(head, elm, field) do { \
    QUEUEDEBUG_LIST_INSERT_HEAD((head), (elm), field) \
    if (((elm)->field.le_next \
        = (head)->lh_first) != LIST_END(head)) \
        (head)->lh_first->field.le_prev = &(elm)->field.le_next; \
    (head)->lh_first = (elm); \
    (elm)->field.le_prev = &(head)->lh_first; \
} while (/*CONSTCOND*/0)

#define LIST_REMOVE(elm, field) do { \
    QUEUEDEBUG_LIST_OP((elm), field) \
    if ((elm)->field.le_next != NULL) \
        (elm)->field.le_next->field.le_prev = \
            (elm)->field.le_prev; \
    *(elm)->field.le_prev = (elm)->field.le_next; \
    QUEUEDEBUG_LIST_POSTREMOVE((elm), field) \
} while (/*CONSTCOND*/0)

```

```

#define LIST_REPLACE(elm, elm2, field) do { \
    if (((elm2)->field.le_next = (elm)->field.le_next) != NULL) \
        (elm2)->field.le_next->field.le_prev = \
            &(elm2)->field.le_next; \
    (elm2)->field.le_prev = (elm)->field.le_prev; \
    *(elm2)->field.le_prev = (elm2); \
    QUEUEDEBUG_LIST_POSTREMOVE((elm), field) \
} while (/*CONSTCOND*/0)

/*
 * Simple queue definitions.
 */
#define SIMPLEQ_HEAD(name, type) \
struct name { \
    struct \
    type *sqh_first; /* first element */ \
    struct type **sqh_last; /* addr of last next element */ \
}

#define SIMPLEQ_HEAD_INITIALIZER(head) \
{ NULL, &(head).sqh_first }

#define SIMPLEQ_ENTRY(type) \
struct { \
    struct type *sqe_next; /* next element */ \
}

/*
 * Simple queue access methods.
 */
#define SIMPLEQ_FIRST(head) ((head)->sqh_first)
#define SIMPLEQ_END(head) NULL
#define SIMPLEQ_EMPTY(head) ((head)->sqh_first == SIMPLEQ_END(head))
#define SIMPLEQ_NEXT(elm, field) ((elm)->field.sqe_next)

#define SIMPLEQ_FOREACH(var, head, field) \
for ((var) = ((head)->sqh_first); \
     (var) != SIMPLEQ_END(head); \
     (var) = ((var)->field.sqe_next))

#define SIMPLEQ_FOREACH_SAFE(var, head, field, next) \
for ((var) = ((head)->sqh_first); \
     (var) != SIMPLEQ_END(head) && \
     ((next = ((var)->field.sqe_next)), 1); \
     (var) = (next))

/*
 * Simple queue functions.

```

```

*/
#define SIMPLEQ_INIT(head) do { \
    (head)->sqh_first = NULL; \
    (head)->sqh_last \
    = &(head)->sqh_first; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_INSERT_HEAD(head, elm, field) do { \
    if (((elm)->field.sqe_next = (head)->sqh_first) == NULL) \
        (head)->sqh_last = &(elm)->field.sqe_next; \
    (head)->sqh_first = (elm); \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_INSERT_TAIL(head, elm, field) do { \
    (elm)->field.sqe_next = NULL; \
    *(head)->sqh_last = (elm); \
    (head)->sqh_last = &(elm)->field.sqe_next; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_INSERT_AFTER(head, listelm, elm, field) do { \
    if (((elm)->field.sqe_next = (listelm)->field.sqe_next) == NULL) \
        (head)->sqh_last = &(elm)->field.sqe_next; \
    (listelm)->field.sqe_next = (elm); \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_REMOVE_HEAD(head, field) do { \
    if (((head)->sqh_first = (head)->sqh_first->field.sqe_next) == NULL) \
        (head)->sqh_last = &(head)->sqh_first; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_REMOVE_AFTER(head, elm, field) do { \
    if \
        (((elm)->field.sqe_next = (elm)->field.sqe_next->field.sqe_next) \
         == NULL) \
        (head)->sqh_last = &(elm)->field.sqe_next; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_REMOVE(head, elm, type, field) do { \
    if ((head)->sqh_first == (elm)) { \
        SIMPLEQ_REMOVE_HEAD((head), field); \
    } else { \
        struct type *curelm = (head)->sqh_first; \
        while (curelm->field.sqe_next != (elm)) \
            curelm = curelm->field.sqe_next; \
        if ((curelm->field.sqe_next = \
            curelm->field.sqe_next->field.sqe_next) == NULL) \
            (head)->sqh_last = &(curelm)->field.sqe_next; \
    } \
} \

```

```

} while (/*CONSTCOND*/0)

#define SIMPLEQ_CONCAT(head1, head2) do { \
    if (!SIMPLEQ_EMPTY((head2))) { \
        *(head1)->sqh_last = (head2)->sqh_first; \
        (head1)->sqh_last = (head2)->sqh_last; \
        SIMPLEQ_INIT((head2)); \
    } \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_LAST(head, type, field) \
    (SIMPLEQ_EMPTY((head)) ? \
     NULL : \
     ((struct type \
      *) (void *) \
      ((char *)((head)->sqh_last) - offsetof(struct type, field))))

/*
 * Tail queue definitions.
 */
#define _TAILQ_HEAD(name, type, qual) \
    struct name { \
        qual type *tqh_first; /* first element */ \
        qual type *qual *tqh_last; /* addr of last next element */ \
    }
#define TAILQ_HEAD(name, type) _TAILQ_HEAD(name, struct type,)

#define TAILQ_HEAD_INITIALIZER(head) \
    { TAILQ_END(head), &(head).tqh_first }

#define _TAILQ_ENTRY(type, qual) \
    struct { \
        qual type *tqe_next; /* next element */ \
        qual type *qual *tqe_prev; /* address of previous next element */ \
    }
#define TAILQ_ENTRY(type) _TAILQ_ENTRY(struct type,)

/*
 * Tail queue access methods.
 */
#define TAILQ_FIRST(head) ((head)->tqh_first)
#define TAILQ_END(head) (NULL)
#define TAILQ_NEXT(elm, field) ((elm)->field.tqe_next)
#define TAILQ_LAST(head, headname) \
    (((struct headname *) (void *)((head)->tqh_last))->tqh_last)
#define TAILQ_PREV(elm, headname, field) \
    (((struct headname

```

```

*)(void *)((elm)->field.tqe_prev)->tqh_last))
#define TAILQ_EMPTY(head) (TAILQ_FIRST(head) == TAILQ_END(head))

#define TAILQ_FOREACH(var, head, field) \
for ((var) = ((head)->tqh_first); \
     (var) != TAILQ_END(head); \
     (var) = ((var)->field.tqe_next))

#define TAILQ_FOREACH_SAFE(var, head, field, next) \
for ((var) = ((head)->tqh_first); \
     (var) != TAILQ_END(head) && \
     ((next) = TAILQ_NEXT(var, field), 1); (var) = (next))

#define TAILQ_FOREACH_REVERSE(var, head, headname, field) \
for ((var) = TAILQ_LAST((head), headname); \
     (var) != TAILQ_END(head); \
     (var) = TAILQ_PREV((var), headname, field))

#define TAILQ_FOREACH_REVERSE_SAFE(var, head, headname, field, prev) \
for ((var) = TAILQ_LAST((head), headname); \
     (var) != TAILQ_END(head) && \
     ((prev) = TAILQ_PREV((var), headname, field), 1); (var) = (prev))

/*
 * Tail queue functions.
 */
#if defined(QUEUEDEBUG)
#define QUEUEDEBUG_TAILQ_INSERT_HEAD(head, \
elm, field) \
if ((head)->tqh_first && \
     (head)->tqh_first->field.tqe_prev != &(head)->tqh_first) \
    QUEUEDEBUG_ABORT("TAILQ_INSERT_HEAD %p %s:%d", (head), \
        __FILE__, __LINE__);
#define QUEUEDEBUG_TAILQ_INSERT_TAIL(head, elm, field) \
if (*(head)->tqh_last != NULL) \
    QUEUEDEBUG_ABORT("TAILQ_INSERT_TAIL %p %s:%d", (head), \
        __FILE__, __LINE__);
#define QUEUEDEBUG_TAILQ_OP(elm, field) \
if ((elm)->field.tqe_next && \
     (elm)->field.tqe_next->field.tqe_prev != \
     &(elm)->field.tqe_next) \
    QUEUEDEBUG_ABORT("TAILQ_* forw %p %s:%d", (elm), \
        __FILE__, __LINE__); \
if (*(elm)->field.tqe_prev != (elm)) \
    QUEUEDEBUG_ABORT("TAILQ_* back %p %s:%d", (elm), \
        __FILE__, __LINE__);
#define QUEUEDEBUG_TAILQ_PREREMOVE(head, elm, field) \

```



```

if ((elm)->field.tqe_next == NULL && \
    (head)->tqh_last != &(elm)->field.tqe_next) \
    QUEUEDEBUG_ABORT("TAILQ_PREREMOVE head %p elm %p %s:%d",\
        (head), (elm), __FILE__,
        __LINE__);
#define QUEUEDEBUG_TAILQ_POSTREMOVE(elm, field) \
    (elm)->field.tqe_next = (void *)1L; \
    (elm)->field.tqe_prev = (void *)1L;
#else
#define QUEUEDEBUG_TAILQ_INSERT_HEAD(head, elm, field)
#define QUEUEDEBUG_TAILQ_INSERT_TAIL(head, elm, field)
#define QUEUEDEBUG_TAILQ_OP(elm, field)
#define QUEUEDEBUG_TAILQ_PREREMOVE(head, elm, field)
#define QUEUEDEBUG_TAILQ_POSTREMOVE(elm, field)
#endif

#define TAILQ_INIT(head) do { \
    (head)->tqh_first = TAILQ_END(head); \
    (head)->tqh_last = &(head)->tqh_first; \
} while (!*CONSTCOND*0)

#define TAILQ_INSERT_HEAD(head, elm, field) do { \
    QUEUEDEBUG_TAILQ_INSERT_HEAD((head), (elm), field) \
    if (((elm)->field.tqe_next = (head)->tqh_first) != TAILQ_END(head))\
        (head)->tqh_first->field.tqe_prev = \
            &(elm)->field.tqe_next; \
    else \
        (head)->tqh_last = &(elm)->field.tqe_next; \
    (head)->tqh_first = (elm); \
    (elm)->field.tqe_prev = &(head)->tqh_first; \
} while (!*CONSTCOND*0)

#define TAILQ_INSERT_TAIL(head, \
    elm, field) do { \
    QUEUEDEBUG_TAILQ_INSERT_TAIL((head), (elm), field) \
    (elm)->field.tqe_next = TAILQ_END(head); \
    (elm)->field.tqe_prev = (head)->tqh_last; \
    *(head)->tqh_last = (elm); \
    (head)->tqh_last = &(elm)->field.tqe_next; \
} while (!*CONSTCOND*0)

#define TAILQ_INSERT_AFTER(head, listelm, elm, field) do { \
    QUEUEDEBUG_TAILQ_OP((listelm), field) \
    if (((elm)->field.tqe_next = (listelm)->field.tqe_next) != \
        TAILQ_END(head)) \
        (elm)->field.tqe_next->field.tqe_prev = \
            &(elm)->field.tqe_next; \
    else \

```

```

(head)->tqh_last = &(elm)->field.tqe_next; \
(listelm)->field.tqe_next = (elm); \
(elm)->field.tqe_prev = &(listelm)->field.tqe_next; \
} while (/*CONSTCOND*/0)

#define TAILQ_INSERT_BEFORE(listelm, elm, field) do { \
    QUEUEDEBUG_TAILQ_OP((listelm), field) \
    (elm)->field.tqe_prev = (listelm)->field.tqe_prev; \
    (elm)->field.tqe_next = (listelm); \
    *(listelm)->field.tqe_prev = (elm); \
    (listelm)->field.tqe_prev \
    = &(elm)->field.tqe_next; \
} while (/*CONSTCOND*/0)

#define TAILQ_REMOVE(head, elm, field) do { \
    QUEUEDEBUG_TAILQ_PREREMOVE((head), (elm), field) \
    QUEUEDEBUG_TAILQ_OP((elm), field) \
    if (((elm)->field.tqe_next) != TAILQ_END(head)) \
        (elm)->field.tqe_next->field.tqe_prev = \
            (elm)->field.tqe_prev; \
    else \
        (head)->tqh_last = (elm)->field.tqe_prev; \
    *(elm)->field.tqe_prev = (elm)->field.tqe_next; \
    QUEUEDEBUG_TAILQ_POSTREMOVE((elm), field); \
} while (/*CONSTCOND*/0)

#define TAILQ_REPLACE(head, elm, elm2, field) do { \
    if (((elm2)->field.tqe_next = (elm)->field.tqe_next) != \
        TAILQ_END(head)) \
        (elm2)->field.tqe_next->field.tqe_prev = \
            &(elm2)->field.tqe_next; \
    else \
        (head)->tqh_last = &(elm2)->field.tqe_next; \
    (elm2)->field.tqe_prev = (elm)->field.tqe_prev; \
    *(elm2)->field.tqe_prev = (elm2); \
    QUEUEDEBUG_TAILQ_POSTREMOVE((elm), \
    field); \
} while (/*CONSTCOND*/0)

#define TAILQ_CONCAT(head1, head2, field) do { \
    if (!TAILQ_EMPTY(head2)) { \
        *(head1)->tqh_last = (head2)->tqh_first; \
        (head2)->tqh_first->field.tqe_prev = (head1)->tqh_last; \
        (head1)->tqh_last = (head2)->tqh_last; \
        TAILQ_INIT((head2)); \
    } \
} while (/*CONSTCOND*/0)

```

```

/*
 * Singly-linked Tail queue declarations.
 */
#define STAILQ_HEAD(name, type)  \
struct name {                    \
    struct type *stqh_first; /* first element */ \
    struct type **stqh_last; /* addr of last next element */ \
}

#define STAILQ_HEAD_INITIALIZER(head)  \
{ NULL, &(head).stqh_first }

#define STAILQ_ENTRY(type)  \
struct {                    \
    struct type *stqe_next; /* next element */ \
}

/*
 * Singly-linked Tail queue access methods.
 */
#define STAILQ_FIRST(head) ((head)->stqh_first)
#define STAILQ_END(head) NULL
#define STAILQ_NEXT(elm, field) ((elm)->field.stqe_next)
#define STAILQ_EMPTY(head) (STAILQ_FIRST(head) \
    == STAILQ_END(head))

/*
 * Singly-linked Tail queue functions.
 */
#define STAILQ_INIT(head) do { \
    (head)->stqh_first = NULL; \
    (head)->stqh_last = &(head)->stqh_first; \
} while (/*CONSTCOND*/)

#define STAILQ_INSERT_HEAD(head, elm, field) do { \
    if (((elm)->field.stqe_next = (head)->stqh_first) == NULL) \
        (head)->stqh_last = &(elm)->field.stqe_next; \
    (head)->stqh_first = (elm); \
} while (/*CONSTCOND*/)

#define STAILQ_INSERT_TAIL(head, elm, field) do { \
    (elm)->field.stqe_next = NULL; \
    *(head)->stqh_last = (elm); \
    (head)->stqh_last = &(elm)->field.stqe_next; \
} while (/*CONSTCOND*/)

#define STAILQ_INSERT_AFTER(head, listelm, elm, field) do { \
    if (((elm)->field.stqe_next = (listelm)->field.stqe_next) == NULL) \

```

```

(head)->stqh_last = &(elm)->field.stqe_next; \
(listelm)->field.stqe_next = (elm); \
} while (/*CONSTCOND*/0)

#define STAILQ_REMOVE_HEAD(head, field) do { \
    if (((head)->stqh_first = (head)->stqh_first->field.stqe_next) \
        == NULL) \
        (head)->stqh_last = &(head)->stqh_first; \
} while (/*CONSTCOND*/0)

#define STAILQ_REMOVE(head, elm, type, field) do { \
    if ((head)->stqh_first == (elm)) { \
        STAILQ_REMOVE_HEAD((head), field); \
    } else { \
        struct type *curelm = (head)->stqh_first; \
        while (curelm->field.stqe_next != (elm)) \
            curelm = curelm->field.stqe_next; \
        if ((curelm->field.stqe_next = \
            curelm->field.stqe_next->field.stqe_next) == NULL) \
            (head)->stqh_last = &(curelm)->field.stqe_next; \
    } \
} while (/*CONSTCOND*/0)

#define STAILQ_FOREACH(var, head, field) \
    for ((var) = ((head)->stqh_first); \
        (var); \
        (var) = ((var)->field.stqe_next))

#define STAILQ_FOREACH_SAFE(var, head, field, tvar) \
    for ((var) = STAILQ_FIRST((head)); \
        (var) && ((tvar) = STAILQ_NEXT((var), field), 1); \
        (var) = (tvar))

#define STAILQ_CONCAT(head1, head2) do { \
    if (!STAILQ_EMPTY((head2))) { \
        *(head1)->stqh_last \
        = (head2)->stqh_first; \
        (head1)->stqh_last = (head2)->stqh_last; \
        STAILQ_INIT((head2)); \
    } \
} while (/*CONSTCOND*/0)

#define STAILQ_LAST(head, type, field) \
    (STAILQ_EMPTY((head)) ? \
    NULL : \
    ((struct type *) (void *) \
    ((char *) ((head)->stqh_last) - offsetof(struct type, field))))

```

```

#ifndef _KERNEL
/*
 * Circular queue definitions. Do not use. We still keep the macros
 * for compatibility but because of pointer aliasing issues their use
 * is discouraged!
 */

/*
 * __launder_type(): We use this ugly hack to work around the the compiler
 * noticing that two types may not alias each other and elide tests in code.
 * We hit this in the CIRCLEQ macros when comparing 'struct name *' and
 * 'struct type *' (see CIRCLEQ_HEAD()). Modern compilers (such as GCC
 * 4.8) declare these comparisons as always false, causing the code to
 * not run as designed.
 *
 * This hack is only to be used for comparisons and thus can be fully const.
 * Do not use for assignment.
 *
 * If we ever choose to change the ABI of the CIRCLEQ macros, we could fix
 * this by changing the head/tail sentinel values, but see the note above
 * this one.
 */
static __inline const void * __launder_type(const void *);
static __inline const void *
__launder_type(const void *__x)
{
    __asm __volatile("" : "+r" (__x));
    return __x;
}

#if defined(QUEUEDEBUG)
#define QUEUEDEBUG_CIRCLEQ_HEAD(head, field) \
    if ((head)->cqh_first != CIRCLEQ_ENDC(head) && \
        (head)->cqh_first->field.cqe_prev != CIRCLEQ_ENDC(head)) \
        QUEUEDEBUG_ABORT("CIRCLEQ head forw %p %s:%d", (head), \
            __FILE__, __LINE__); \
    if ((head)->cqh_last != CIRCLEQ_ENDC(head) && \
        (head)->cqh_last->field.cqe_next != CIRCLEQ_ENDC(head)) \
        QUEUEDEBUG_ABORT("CIRCLEQ head back %p %s:%d", (head), \
            __FILE__, __LINE__);
#define QUEUEDEBUG_CIRCLEQ_ELM(head, elm, field) \
    if ((elm)->field.cqe_next == CIRCLEQ_ENDC(head)) { \
        if ((head)->cqh_last != (elm)) \
            QUEUEDEBUG_ABORT("CIRCLEQ \
elm last %p %s:%d", \
                (elm), __FILE__, __LINE__); \
    } else { \

```

```

if ((elm)->field.cqe_next->field.cqe_prev != (elm)) \
    QUEUEDEBUG_ABORT("CIRCLEQ elm forw %p %s:%d", \
        (elm), __FILE__, __LINE__); \
} \
if ((elm)->field.cqe_prev == CIRCLEQ_ENDC(head)) { \
    if ((head)->cqh_first != (elm)) \
        QUEUEDEBUG_ABORT("CIRCLEQ elm first %p %s:%d", \
            (elm), __FILE__, __LINE__); \
} else { \
    if ((elm)->field.cqe_prev->field.cqe_next != (elm)) \
        QUEUEDEBUG_ABORT("CIRCLEQ elm prev %p %s:%d", \
            (elm), __FILE__, __LINE__); \
}
#define QUEUEDEBUG_CIRCLEQ_POSTREMOVE(elm, field) \
    (elm)->field.cqe_next = (void *)1L; \
    (elm)->field.cqe_prev = (void *)1L;
#else
#define QUEUEDEBUG_CIRCLEQ_HEAD(head, field)
#define QUEUEDEBUG_CIRCLEQ_ELM(head, elm, field)
#define QUEUEDEBUG_CIRCLEQ_POSTREMOVE(elm, field)
#endif

#define CIRCLEQ_HEAD(name, type) \
    struct name { \
        struct type *cqh_first; /* \
        first element */ \
        struct type *cqh_last; /* last element */ \
    }

#define CIRCLEQ_HEAD_INITIALIZER(head) \
    { CIRCLEQ_END(&head), CIRCLEQ_END(&head) }

#define CIRCLEQ_ENTRY(type) \
    struct { \
        struct type *cqe_next; /* next element */ \
        struct type *cqe_prev; /* previous element */ \
    }

/*
 * Circular queue functions.
 */
#define CIRCLEQ_INIT(head) do { \
    (head)->cqh_first = CIRCLEQ_END(head); \
    (head)->cqh_last = CIRCLEQ_END(head); \
} while (/*CONSTCOND*/0)

#define CIRCLEQ_INSERT_AFTER(head, listelm, elm, field) do { \
    QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \

```

```

QUEUEDEBUG_CIRCLEQ_ELM((head), (listelm), field) \
(elm)->field.cqe_next = (listelm)->field.cqe_next; \
(elm)->field.cqe_prev = (listelm); \
if ((listelm)->field.cqe_next == CIRCLEQ_ENDC(head)) \
(head)->cqh_last = (elm); \
else \
(listelm)->field.cqe_next->field.cqe_prev = (elm); \
(listelm)->field.cqe_next = (elm); \
} while (/*CONSTCOND*/0)

```

```

#define CIRCLEQ_INSERT_BEFORE(head,
listelm, elm, field) do { \
QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \
QUEUEDEBUG_CIRCLEQ_ELM((head), (listelm), field) \
(elm)->field.cqe_next = (listelm); \
(elm)->field.cqe_prev = (listelm)->field.cqe_prev; \
if ((listelm)->field.cqe_prev == CIRCLEQ_ENDC(head)) \
(head)->cqh_first = (elm); \
else \
(listelm)->field.cqe_prev->field.cqe_next = (elm); \
(listelm)->field.cqe_prev = (elm); \
} while (/*CONSTCOND*/0)

```

```

#define CIRCLEQ_INSERT_HEAD(head, elm, field) do { \
QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \
(elm)->field.cqe_next = (head)->cqh_first; \
(elm)->field.cqe_prev = CIRCLEQ_END(head); \
if ((head)->cqh_last == CIRCLEQ_ENDC(head)) \
(head)->cqh_last = (elm); \
else \
(head)->cqh_first->field.cqe_prev = (elm); \
(head)->cqh_first = (elm); \
} while (/*CONSTCOND*/0)

```

```

#define CIRCLEQ_INSERT_TAIL(head, elm, field) do { \
QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \
(elm)->field.cqe_next
= CIRCLEQ_END(head); \
(elm)->field.cqe_prev = (head)->cqh_last; \
if ((head)->cqh_first == CIRCLEQ_ENDC(head)) \
(head)->cqh_first = (elm); \
else \
(head)->cqh_last->field.cqe_next = (elm); \
(head)->cqh_last = (elm); \
} while (/*CONSTCOND*/0)

```

```

#define CIRCLEQ_REMOVE(head, elm, field) do { \
QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \

```

```

QUEUEDEBUG_CIRCLEQ_ELM((head), (elm), field) \
if ((elm)->field.cqe_next == CIRCLEQ_ENDC(head)) \
    (head)->cqh_last = (elm)->field.cqe_prev; \
else \
    (elm)->field.cqe_next->field.cqe_prev = \
        (elm)->field.cqe_prev; \
if ((elm)->field.cqe_prev == CIRCLEQ_ENDC(head)) \
    (head)->cqh_first = (elm)->field.cqe_next; \
else \
    (elm)->field.cqe_prev->field.cqe_next = \
        (elm)->field.cqe_next; \
QUEUEDEBUG_CIRCLEQ_POSTREMOVE((elm), field) \
} while (/*CONSTCOND*/0)

```

```

#define CIRCLEQ_FOREACH(var, head, field) \
for ((var) = ((head)->cqh_first); \
    (var) != CIRCLEQ_ENDC(head); \
    (var) \
    = ((var)->field.cqe_next))

```

```

#define CIRCLEQ_FOREACH_REVERSE(var, head, field) \
for ((var) = ((head)->cqh_last); \
    (var) != CIRCLEQ_ENDC(head); \
    (var) = ((var)->field.cqe_prev))

```

/*

* Circular queue access methods.

*/

```

#define CIRCLEQ_FIRST(head) ((head)->cqh_first)

```

```

#define CIRCLEQ_LAST(head) ((head)->cqh_last)

```

/* For comparisons */

```

#define CIRCLEQ_ENDC(head) (__laundry_type(head))

```

/* For assignments */

```

#define CIRCLEQ_END(head) ((void *)(head))

```

```

#define CIRCLEQ_NEXT(elm, field) ((elm)->field.cqe_next)

```

```

#define CIRCLEQ_PREV(elm, field) ((elm)->field.cqe_prev)

```

```

#define CIRCLEQ_EMPTY(head) \
    (CIRCLEQ_FIRST(head) == CIRCLEQ_ENDC(head))

```

```

#define CIRCLEQ_LOOP_NEXT(head, elm, field) \
    (((elm)->field.cqe_next == CIRCLEQ_ENDC(head)) \
     ? ((head)->cqh_first) \
     : (elm)->field.cqe_next)

```

```

#define CIRCLEQ_LOOP_PREV(head, elm, field) \
    (((elm)->field.cqe_prev == CIRCLEQ_ENDC(head)) \
     ? ((head)->cqh_last) \
     :

```



```

(elm->field.cqe_prev))
#endif /* !_KERNEL */

#endif /* !_SYS_QUEUE_H_ */
# Contributor: Fabian Affolter <fabian@affolter-engineering.ch>
# Maintainer: Fabian Affolter <fabian@affolter-engineering.ch>
pkgname=py3-flake8-copyright
_pkgname=flake8-copyright
pkgver=0.2.4
pkgrel=3
pkgdesc="Extension for flake8 which checks for copyrights"
options="!check" # No testsuite
url="https://github.com/savoirfairelinux/flake8-copyright"
arch="noarch"
license="MIT"
depends="py3-flake8 py3-setuptools"
makedepends="py3-gp517 py3-wheel"
subpackages="$pkgname-pyc"
source="https://files.pythonhosted.org/packages/source/${_pkgname:0:1}/${_pkgname}/${_pkgname}-${pkgver}.tar.gz"
builddir="$srcdir"/$_pkgname-$pkgver

replaces="py-flake8-copyright" # Backwards compatibility
provides="py-flake8-copyright=$pkgver-r$pkgrel" # Backwards compatibility

build() {
    gp517 build-wheel \
        --wheel-dir .dist \
        --output-fd 3 3>&1 >&2
}

package() {
    gp517 install-wheel --destdir "$pkgdir" \
        .dist/*.whl
}

sha512sums="
a6ab47e1bb715618f075c51f398e18180404871b3b0faf1c2d30701d5203db6bc23771bf22ffb5bafcd8ee856b9b64237
b316bd503ae7dceed6ca284ccd5a74d
flake8-copyright-0.2.4.tar.gz
"

#ifndef _SYS_CDEFS_H_
#define _SYS_CDEFS_H_

#warning usage of non-standard #include <sys/cdefs.h> is deprecated

#undef __P
#undef __PMT

```

```

#define __P(args) args
#define __PMT(args) args

#define __CONCAT(x,y) x ## y
#define __STRING(x) #x

#ifdef __cplusplus
# define __BEGIN_DECLS extern "C" {
# define __END_DECLS }
#else
# define __BEGIN_DECLS
# define __END_DECLS
#endif

#if defined(__GNUC__) && !defined(__cplusplus)
# define __THROW __attribute__((__nothrow__))
# define __NTH(fct) __attribute__((__nothrow__)) fct
#else
# define __THROW
# define __NTH(fct) fct
#endif

#endif /* _SYS_CDEFS_H_ */
# Maintainer: fossdd <fossdd@pwned.life>
pkgname=cargo-license
pkgver=0.6.1
pkgrel=1
pkgdesc="Cargo subcommand to see license of dependencies"
url="https://github.com/onur/cargo-license"
arch="all"
license="MIT"
makedepends="cargo cargo-auditable"
source="$pkgname-$pkgver.tar.gz::https://crates.io/api/v1/crates/cargo-license/$pkgver/download"

prepare() {
    default_prepare

    cargo fetch --target="$CTARGET" --locked
}

build() {
    cargo auditable build --release --frozen
}

check() {
    cargo test --frozen
}

```

```

package() {
    install -Dm755 target/release/cargo-license -t "$pkgdir"/usr/bin
}

sha512sums="
36215145e79965be090ae2f5ce6f5eb208465eb67a94c26bed1fe70a131c46c6dc35695e30852759b7366883fbc3caf00
272d796ac634f0a5e1d49232b6b29d5  cargo-license-0.6.1.tar.gz
"

/* $NetBSD: tree.h,v 1.20 2013/09/14 13:20:45 joerg Exp $ */
/* $OpenBSD: tree.h,v 1.13 2011/07/09 00:19:45 pirofti Exp $ */
/* Modified by Void Linux. */
/*
* Copyright 2002 Niels Provos <provos@citi.umich.edu>
* 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
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*
* 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.
*/

#ifndef _SYS_TREE_H_
#define _SYS_TREE_H_

#ifdef __GNUC__
#define __GNUC_PREREQ__(x, y) \
    ((__GNUC__ == (x) && __GNUC_MINOR__ >= (y)) || \
     (__GNUC__ > (x)))
#else
#define __GNUC_PREREQ__(x, y) 0
#endif

```

```

#if __GNUC_PREREQ__(2, 7) || defined(__lint__)
#define _sys_tree_h_unused __attribute__((__unused__))
#else
#define _sys_tree_h_unused /* delete */
#endif

/*
 * This file defines data structures for different types of trees:
 * splay trees and red-black trees.
 *
 * A splay tree is a self-organizing
 * data structure. Every operation
 * on the tree causes a splay to happen. The splay moves the requested
 * node to the root of the tree and partly rebalances it.
 *
 * This has the benefit that request locality causes faster lookups as
 * the requested nodes move to the top of the tree. On the other hand,
 * every lookup causes memory writes.
 *
 * The Balance Theorem bounds the total access time for m operations
 * and n inserts on an initially empty tree as  $O((m + n)\lg n)$ . The
 * amortized cost for a sequence of m accesses to a splay tree is  $O(\lg n)$ ;
 *
 * A red-black tree is a binary search tree with the node color as an
 * extra attribute. It fulfills a set of conditions:
 * - every search path from the root to a leaf consists of the
 *   same number of black nodes,
 * - each red node (except for the root) has a black parent,
 * - each leaf node is black.
 *
 * Every operation on a red-black tree is bounded as  $O(\lg n)$ .
 * The maximum height of a red-black tree is  $2\lg(n+1)$ .
 */

#define SPLAY_HEAD(name, type) \
struct name { \
    struct type *sph_root; /* root of the tree */ \
}

#define SPLAY_INITIALIZER(root) \
{ NULL }

#define SPLAY_INIT(root) do { \
    (root)->sph_root = NULL; \
} while (/*CONSTCOND*/ 0)

#define SPLAY_ENTRY(type) \
struct { \

```

```

struct type *spe_left; /* left element */ \
struct type *spe_right; /* right element */ \
}

#define SPLAY_LEFT(elm, field) (elm)->field.spe_left
#define SPLAY_RIGHT(elm, field) (elm)->field.spe_right
#define SPLAY_ROOT(head) (head)->sph_root
#define SPLAY_EMPTY(head) (SPLAY_ROOT(head) == NULL)

/* SPLAY_ROTATE_{LEFT,RIGHT} expect that tmp hold SPLAY_{RIGHT,LEFT} */
#define SPLAY_ROTATE_RIGHT(head, tmp, field) do { \
    SPLAY_LEFT((head)->sph_root, field) = SPLAY_RIGHT(tmp, field); \
    SPLAY_RIGHT(tmp, field) = (head)->sph_root; \
    (head)->sph_root = tmp; \
} while (/*CONSTCOND*/ 0)

#define SPLAY_ROTATE_LEFT(head, tmp, field) do { \
    SPLAY_RIGHT((head)->sph_root, \
    field) = SPLAY_LEFT(tmp, field); \
    SPLAY_LEFT(tmp, field) = (head)->sph_root; \
    (head)->sph_root = tmp; \
} while (/*CONSTCOND*/ 0)

#define SPLAY_LINKLEFT(head, tmp, field) do { \
    SPLAY_LEFT(tmp, field) = (head)->sph_root; \
    tmp = (head)->sph_root; \
    (head)->sph_root = SPLAY_LEFT((head)->sph_root, field); \
} while (/*CONSTCOND*/ 0)

#define SPLAY_LINKRIGHT(head, tmp, field) do { \
    SPLAY_RIGHT(tmp, field) = (head)->sph_root; \
    tmp = (head)->sph_root; \
    (head)->sph_root = SPLAY_RIGHT((head)->sph_root, field); \
} while (/*CONSTCOND*/ 0)

#define SPLAY_ASSEMBLE(head, node, left, right, field) do { \
    SPLAY_RIGHT(left, field) = SPLAY_LEFT((head)->sph_root, field); \
    SPLAY_LEFT(right, field) = SPLAY_RIGHT((head)->sph_root, field); \
    SPLAY_LEFT((head)->sph_root, field) = SPLAY_RIGHT(node, field); \
    SPLAY_RIGHT((head)->sph_root, field) = SPLAY_LEFT(node, field); \
} while (/*CONSTCOND*/ 0)

/* Generates prototypes and inline functions */

#define
    SPLAY_PROTOTYPE(name, type, field, cmp) \
void name##_SPLAY(struct name *, struct type *); \
void name##_SPLAY_MINMAX(struct name *, int); \

```

```

struct type *name##_SPLAY_INSERT(struct name *, struct type *); \
struct type *name##_SPLAY_REMOVE(struct name *, struct type *); \
\
/* Finds the node with the same key as elm */ \
static __inline struct type * \
name##_SPLAY_FIND(struct name *head, struct type *elm) \
{ \
    if (SPLAY_EMPTY(head)) \
        return(NULL); \
    name##_SPLAY(head, elm); \
    if ((cmp)(elm, (head)->sph_root) == 0) \
        return (head->sph_root); \
    return (NULL); \
} \
\
static __inline _sys_tree_h_unused struct type * \
name##_SPLAY_NEXT(struct name *head, struct type *elm) \
{ \
    name##_SPLAY(head, elm); \
    if (SPLAY_RIGHT(elm, field) != NULL) { \
        elm = SPLAY_RIGHT(elm, field); \
        while (SPLAY_LEFT(elm, field) != NULL) { \
            elm = SPLAY_LEFT(elm, field); \
        } \
    } \
    else \
        elm = NULL; \
    return (elm); \
} \
\
static _sys_tree_h_unused __inline struct type * \
name##_SPLAY_MIN_MAX(struct name *head, int val) \
{ \
    name##_SPLAY_MINMAX(head, val); \
    return (SPLAY_ROOT(head)); \
} \
\
/* Main splay operation.
 * Moves node close to the key of elm to top
 */
#define SPLAY_GENERATE(name, type, field, cmp) \
struct type * \
name##_SPLAY_INSERT(struct name *head, struct type *elm) \
{ \
    if (SPLAY_EMPTY(head)) { \
        SPLAY_LEFT(elm, field) = SPLAY_RIGHT(elm, field) = NULL; \
    } else { \
        int __comp; \

```

```

name##_SPLAY(head, elm); \
__comp = (cmp)(elm, (head)->sph_root); \
if(__comp < 0) { \
    SPLAY_LEFT(elm, field) = SPLAY_LEFT((head)->sph_root, field);\
    SPLAY_RIGHT(elm, field) = (head)->sph_root; \
    SPLAY_LEFT((head)->sph_root, field) = NULL; \
} else if (__comp > 0) { \
    SPLAY_RIGHT(elm,
field) = SPLAY_RIGHT((head)->sph_root, field);\
    SPLAY_LEFT(elm, field) = (head)->sph_root; \
    SPLAY_RIGHT((head)->sph_root, field) = NULL; \
} else \
    return ((head)->sph_root); \
} \
(head)->sph_root = (elm); \
return (NULL); \
} \
\
struct type * \
name##_SPLAY_REMOVE(struct name *head, struct type *elm) \
{ \
    struct type *__tmp; \
    if (SPLAY_EMPTY(head)) \
        return (NULL); \
    name##_SPLAY(head, elm); \
    if ((cmp)(elm, (head)->sph_root) == 0) { \
        if (SPLAY_LEFT((head)->sph_root, field) == NULL) { \
            (head)->sph_root = SPLAY_RIGHT((head)->sph_root, field);\
        } else { \
            __tmp = SPLAY_RIGHT((head)->sph_root, field); \
            (head)->sph_root = SPLAY_LEFT((head)->sph_root, field);\
            name##_SPLAY(head, elm); \
            SPLAY_RIGHT((head)->sph_root, field) = __tmp; \
        } \
        return (elm); \
    } \
    return (NULL); \
} \
\
void \
name##_SPLAY(struct
name *head, struct type *elm) \
{ \
    struct type __node, *__left, *__right, *__tmp; \
    int __comp; \
    \
    SPLAY_LEFT(&__node, field) = SPLAY_RIGHT(&__node, field) = NULL;\
    __left = __right = &__node; \

```

```

\
while ((__comp = (cmp)(elm, (head)->sph_root)) != 0) { \
    if (__comp < 0) { \
        __tmp = SPLAY_LEFT((head)->sph_root, field); \
        if (__tmp == NULL) \
            break; \
        if ((cmp)(elm, __tmp) < 0){ \
            SPLAY_ROTATE_RIGHT(head, __tmp, field); \
            if (SPLAY_LEFT((head)->sph_root, field) == NULL)\
                break; \
        } \
        SPLAY_LINKLEFT(head, __right, field); \
    } else if (__comp > 0) { \
        __tmp = SPLAY_RIGHT((head)->sph_root, field); \
        if (__tmp == NULL) \
            break; \
        if ((cmp)(elm, __tmp) > 0){ \
            SPLAY_ROTATE_LEFT(head, __tmp, field); \
            if (SPLAY_RIGHT((head)->sph_root, field) == NULL)\
                break; \
        } \
        SPLAY_LINKRIGHT(head, __left, field); \
    } \
} \
SPLAY_ASSEMBLE(head,
&__node, __left, __right, field); \
} \
\
/* Splay with either the minimum or the maximum element \
 * Used to find minimum or maximum element in tree. \
 */ \
void name##_SPLAY_MINMAX(struct name *head, int __comp) \
{ \
    struct type __node, *__left, *__right, *__tmp; \
    \
    SPLAY_LEFT(&__node, field) = SPLAY_RIGHT(&__node, field) = NULL;\
    __left = __right = &__node; \
    \
    while (1) { \
        if (__comp < 0) { \
            __tmp = SPLAY_LEFT((head)->sph_root, field); \
            if (__tmp == NULL) \
                break; \
            if (__comp < 0){ \
                SPLAY_ROTATE_RIGHT(head, __tmp, field); \
                if (SPLAY_LEFT((head)->sph_root, field) == NULL)\
                    break; \
            } \
        } \
    } \
} \

```



```

    SPLAY_LINKLEFT(head, __right, field); \
} else if (__comp > 0) { \
    __tmp = SPLAY_RIGHT((head)->sph_root, field); \
    if (__tmp == NULL) \
        break; \
    if (__comp > 0) { \
        SPLAY_ROTATE_LEFT(head, __tmp, field); \
        if (SPLAY_RIGHT((head)->sph_root,
field) == NULL)\
            break; \
    } \
    SPLAY_LINKRIGHT(head, __left, field); \
} \
} \
SPLAY_ASSEMBLE(head, &__node, __left, __right, field); \
}

#define SPLAY_NEGINF -1
#define SPLAY_INF 1

#define SPLAY_INSERT(name, x, y) name##_SPLAY_INSERT(x, y)
#define SPLAY_REMOVE(name, x, y) name##_SPLAY_REMOVE(x, y)
#define SPLAY_FIND(name, x, y) name##_SPLAY_FIND(x, y)
#define SPLAY_NEXT(name, x, y) name##_SPLAY_NEXT(x, y)
#define SPLAY_MIN(name, x) (SPLAY_EMPTY(x) ? NULL \
    : name##_SPLAY_MIN_MAX(x, SPLAY_NEGINF))
#define SPLAY_MAX(name, x) (SPLAY_EMPTY(x) ? NULL \
    : name##_SPLAY_MIN_MAX(x, SPLAY_INF))

#define SPLAY_FOREACH(x, name, head) \
    for ((x) = SPLAY_MIN(name, head); \
        (x) != NULL; \
        (x) = SPLAY_NEXT(name, head, x))

/* Macros that define a red-black tree */
#define RB_HEAD(name, type) \
struct name { \
    struct type *rbh_root; /* root of the tree */ \
}

#define RB_INITIALIZER(root) \
{ \
    NULL }

#define RB_INIT(root) do { \
    (root)->rbh_root = NULL; \
} while (/*CONSTCOND*/ 0)

```

```

#define RB_BLACK 0
#define RB_RED 1
#define RB_ENTRY(type) \
struct { \
    struct type *rbe_left; /* left element */ \
    struct type *rbe_right; /* right element */ \
    struct type *rbe_parent; /* parent element */ \
    int rbe_color; /* node color */ \
}

#define RB_LEFT(elm, field) (elm)->field.rbe_left
#define RB_RIGHT(elm, field) (elm)->field.rbe_right
#define RB_PARENT(elm, field) (elm)->field.rbe_parent
#define RB_COLOR(elm, field) (elm)->field.rbe_color
#define RB_ROOT(head) (head)->rbh_root
#define RB_EMPTY(head) (RB_ROOT(head) == NULL)

#define RB_SET(elm, parent, field) do { \
    RB_PARENT(elm, field) = parent; \
    RB_LEFT(elm, field) = RB_RIGHT(elm, field) = NULL; \
    RB_COLOR(elm, field) = RB_RED; \
} while (/*CONSTCOND*/ 0)

#define RB_SET_BLACKRED(black, red, field) do { \
    RB_COLOR(black, field) = RB_BLACK; \
    RB_COLOR(red, field) \
    = RB_RED; \
} while (/*CONSTCOND*/ 0)

#ifndef RB_AUGMENT
#define RB_AUGMENT(x) do {} while (/*CONSTCOND*/ 0)
#endif

#define RB_ROTATE_LEFT(head, elm, tmp, field) do { \
    (tmp) = RB_RIGHT(elm, field); \
    if ((RB_RIGHT(elm, field) = RB_LEFT(tmp, field)) != NULL) { \
        RB_PARENT(RB_LEFT(tmp, field), field) = (elm); \
    } \
    RB_AUGMENT(elm); \
    if ((RB_PARENT(tmp, field) = RB_PARENT(elm, field)) != NULL) { \
        if ((elm) == RB_LEFT(RB_PARENT(elm, field), field)) \
            RB_LEFT(RB_PARENT(elm, field), field) = (tmp); \
        else \
            RB_RIGHT(RB_PARENT(elm, field), field) = (tmp); \
    } else \
        (head)->rbh_root = (tmp); \
    RB_LEFT(tmp, field) = (elm); \
    RB_PARENT(elm, field) = (tmp); \
}

```

```

RB_AUGMENT(tmp); \
if ((RB_PARENT(tmp, field))) \
    RB_AUGMENT(RB_PARENT(tmp, field)); \
} while (/*CONSTCOND*/ 0)

#define RB_ROTATE_RIGHT(head, elm, tmp, field) do { \
    (tmp) = RB_LEFT(elm, field); \
    if ((RB_LEFT(elm, field) = RB_RIGHT(tmp, field)) \
        != NULL) { \
        RB_PARENT(RB_RIGHT(tmp, field), field) = (elm); \
    } \
    RB_AUGMENT(elm); \
    if ((RB_PARENT(tmp, field) = RB_PARENT(elm, field)) != NULL) { \
        if ((elm) == RB_LEFT(RB_PARENT(elm, field), field)) \
            RB_LEFT(RB_PARENT(elm, field), field) = (tmp); \
        else \
            RB_RIGHT(RB_PARENT(elm, field), field) = (tmp); \
    } else \
        (head)->rbh_root = (tmp); \
    RB_RIGHT(tmp, field) = (elm); \
    RB_PARENT(elm, field) = (tmp); \
    RB_AUGMENT(tmp); \
    if ((RB_PARENT(tmp, field))) \
        RB_AUGMENT(RB_PARENT(tmp, field)); \
} while (/*CONSTCOND*/ 0)

/* Generates prototypes and inline functions */
#define RB_PROTOTYPE(name, type, field, cmp) \
    RB_PROTOTYPE_INTERNAL(name, type, field, cmp,)
#define RB_PROTOTYPE_STATIC(name, type, field, cmp) \
    RB_PROTOTYPE_INTERNAL(name, type, field, cmp, _sys_tree_h_unused static)
#define RB_PROTOTYPE_INTERNAL(name, type, field, cmp, attr) \
    attr void name##_RB_INSERT_COLOR(struct name *, struct \
        type *); \
    attr void name##_RB_REMOVE_COLOR(struct name *, struct type *, struct type *); \
    attr struct type *name##_RB_REMOVE(struct name *, struct type *); \
    attr struct type *name##_RB_INSERT(struct name *, struct type *); \
    attr struct type *name##_RB_FIND(struct name *, struct type *); \
    attr struct type *name##_RB_NFIND(struct name *, struct type *); \
    attr struct type *name##_RB_NEXT(struct type *); \
    attr struct type *name##_RB_PREV(struct type *); \
    attr struct type *name##_RB_MINMAX(struct name *, int); \
    \

/* Main rb operation.
 * Moves node close to the key of elm to top
 */
#define RB_GENERATE(name, type, field, cmp) \

```

```

RB_GENERATE_INTERNAL(name, type, field, cmp,)
#define RB_GENERATE_STATIC(name, type, field, cmp) \
    RB_GENERATE_INTERNAL(name, type, field, cmp, _sys_tree_h_unused static)
#define RB_GENERATE_INTERNAL(name, type, field, cmp, attr) \
    attr void \
    name##_RB_INSERT_COLOR(struct name *head, struct type *elm) \
    { \
        \
        struct type \
        *parent, *gparent, *tmp; \
        while ((parent = RB_PARENT(elm, field)) != NULL && \
            RB_COLOR(parent, field) == RB_RED) { \
            gparent = RB_PARENT(parent, field); \
            if (parent == RB_LEFT(gparent, field)) { \
                tmp = RB_RIGHT(gparent, field); \
                if (tmp && RB_COLOR(tmp, field) == RB_RED) { \
                    RB_COLOR(tmp, field) = RB_BLACK; \
                    RB_SET_BLACKRED(parent, gparent, field);\
                    elm = gparent; \
                    continue; \
                } \
                if (RB_RIGHT(parent, field) == elm) { \
                    RB_ROTATE_LEFT(head, parent, tmp, field);\
                    tmp = parent; \
                    parent = elm; \
                    elm = tmp; \
                } \
                RB_SET_BLACKRED(parent, gparent, field); \
                RB_ROTATE_RIGHT(head, gparent, tmp, field); \
            } else { \
                tmp = RB_LEFT(gparent, field); \
                if (tmp && RB_COLOR(tmp, field) == RB_RED) { \
                    RB_COLOR(tmp, field) = RB_BLACK; \
                    RB_SET_BLACKRED(parent, gparent, field);\
                    elm = gparent; \
                    continue; \
                } \
                if (RB_LEFT(parent, field) == elm) \
            { \
                RB_ROTATE_RIGHT(head, parent, tmp, field);\
                tmp = parent; \
                parent = elm; \
                elm = tmp; \
            } \
            RB_SET_BLACKRED(parent, gparent, field); \
            RB_ROTATE_LEFT(head, gparent, tmp, field); \
        } \
    } \
    RB_COLOR(head->rbh_root, field) = RB_BLACK; \

```

```

} \
\
attr void \
name##_RB_REMOVE_COLOR(struct name *head, struct type *parent, struct type *elm) \
{ \
    struct type *tmp; \
    while ((elm == NULL || RB_COLOR(elm, field) == RB_BLACK) && \
        elm != RB_ROOT(head)) { \
        if (RB_LEFT(parent, field) == elm) { \
            tmp = RB_RIGHT(parent, field); \
            if (RB_COLOR(tmp, field) == RB_RED) { \
                RB_SET_BLACKRED(tmp, parent, field); \
                RB_ROTATE_LEFT(head, parent, tmp, field); \
                tmp = RB_RIGHT(parent, field); \
            } \
            if ((RB_LEFT(tmp, field) == NULL || \
                RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) && \
                (RB_RIGHT(tmp, field) == NULL || \
                RB_COLOR(RB_RIGHT(tmp, \
field), field) == RB_BLACK)) { \
                RB_COLOR(tmp, field) = RB_RED; \
                elm = parent; \
                parent = RB_PARENT(elm, field); \
            } else { \
                if (RB_RIGHT(tmp, field) == NULL || \
                    RB_COLOR(RB_RIGHT(tmp, field), field) == RB_BLACK) { \
                    struct type *oleft; \
                    if ((oleft = RB_LEFT(tmp, field)) \
                        != NULL) \
                        RB_COLOR(oleft, field) = RB_BLACK; \
                    RB_COLOR(tmp, field) = RB_RED; \
                    RB_ROTATE_RIGHT(head, tmp, oleft, field); \
                    tmp = RB_RIGHT(parent, field); \
                } \
                RB_COLOR(tmp, field) = RB_COLOR(parent, field); \
                RB_COLOR(parent, field) = RB_BLACK; \
                if (RB_RIGHT(tmp, field)) \
                    RB_COLOR(RB_RIGHT(tmp, field), field) = RB_BLACK; \
                RB_ROTATE_LEFT(head, parent, tmp, field); \
                elm = RB_ROOT(head); \
                break; \
            } \
        } else { \
            tmp = RB_LEFT(parent, field); \
            if (RB_COLOR(tmp, field) == RB_RED) { \
                RB_SET_BLACKRED(tmp, parent, field); \
                RB_ROTATE_RIGHT(head, parent, tmp, field); \
                tmp

```

```

= RB_LEFT(parent, field); \
} \
if ((RB_LEFT(tmp, field) == NULL || \
    RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) &&\
    (RB_RIGHT(tmp, field) == NULL || \
    RB_COLOR(RB_RIGHT(tmp, field), field) == RB_BLACK)) {\
    RB_COLOR(tmp, field) = RB_RED; \
    elm = parent; \
    parent = RB_PARENT(elm, field); \
} else { \
    if (RB_LEFT(tmp, field) == NULL || \
        RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) {\
        struct type *oright; \
        if ((oright = RB_RIGHT(tmp, field)) \
            != NULL) \
            RB_COLOR(oright, field) = RB_BLACK;\
        RB_COLOR(tmp, field) = RB_RED; \
        RB_ROTATE_LEFT(head, tmp, oright, field);\
        tmp = RB_LEFT(parent, field); \
    } \
    RB_COLOR(tmp, field) = RB_COLOR(parent, field);\
    RB_COLOR(parent, field) = RB_BLACK; \
    if (RB_LEFT(tmp, field)) \
        RB_COLOR(RB_LEFT(tmp, field), field) = RB_BLACK;\
    RB_ROTATE_RIGHT(head, parent, tmp, field);\
    elm = RB_ROOT(head); \
    break; \
} \
} \
} \
if
(elm) \
    RB_COLOR(elm, field) = RB_BLACK; \
} \
\
attr struct type * \
name##_RB_REMOVE(struct name *head, struct type *elm) \
{ \
    struct type *child, *parent, *old = elm; \
    int color; \
    if (RB_LEFT(elm, field) == NULL) \
        child = RB_RIGHT(elm, field); \
    else if (RB_RIGHT(elm, field) == NULL) \
        child = RB_LEFT(elm, field); \
    else { \
        struct type *left; \
        elm = RB_RIGHT(elm, field); \
        while ((left = RB_LEFT(elm, field)) != NULL) \

```

```

    elm = left;  \
    child = RB_RIGHT(elm, field);  \
    parent = RB_PARENT(elm, field);  \
    color = RB_COLOR(elm, field);  \
    if (child)  \
        RB_PARENT(child, field) = parent;  \
    if (parent) {  \
        if (RB_LEFT(parent, field) == elm)  \
            RB_LEFT(parent, field) = child;  \
        else  \
            RB_RIGHT(parent, field) = child;  \
        RB_AUGMENT(parent);  \
    } else  \
        RB_ROOT(head)
= child;  \
if (RB_PARENT(elm, field) == old)  \
    parent = elm;  \
(elm)->field = (old)->field;  \
if (RB_PARENT(old, field)) {  \
    if (RB_LEFT(RB_PARENT(old, field), field) == old)\
        RB_LEFT(RB_PARENT(old, field), field) = elm;\
    else  \
        RB_RIGHT(RB_PARENT(old, field), field) = elm;\
    RB_AUGMENT(RB_PARENT(old, field));  \
} else  \
    RB_ROOT(head) = elm;  \
RB_PARENT(RB_LEFT(old, field), field) = elm;  \
if (RB_RIGHT(old, field))  \
    RB_PARENT(RB_RIGHT(old, field), field) = elm;  \
if (parent) {  \
    left = parent;  \
    do {  \
        RB_AUGMENT(left);  \
    } while ((left = RB_PARENT(left, field)) != NULL);  \
}  \
goto color;  \
}  \
parent = RB_PARENT(elm, field);  \
color = RB_COLOR(elm, field);  \
if (child)  \
    RB_PARENT(child, field) = parent;  \
if (parent) {  \
    if (RB_LEFT(parent, field) == elm)  \
        RB_LEFT(parent, field) = child;  \
    else  \
        RB_RIGHT(parent,
field) = child;  \
    RB_AUGMENT(parent);  \

```

```

    } else    \
        RB_ROOT(head) = child;    \
color:    \
if (color == RB_BLACK)    \
    name##_RB_REMOVE_COLOR(head, parent, child); \
return (old);    \
}    \
    \
/* Inserts a node into the RB tree */    \
attr struct type *    \
name##_RB_INSERT(struct name *head, struct type *elm) \
{    \
    struct type *tmp;    \
    struct type *parent = NULL;    \
    int comp = 0;    \
    tmp = RB_ROOT(head);    \
    while (tmp) {    \
        parent = tmp;    \
        comp = (cmp)(elm, parent);    \
        if (comp < 0)    \
            tmp = RB_LEFT(tmp, field);    \
        else if (comp > 0)    \
            tmp = RB_RIGHT(tmp, field);    \
        else    \
            return (tmp);    \
    }    \
    RB_SET(elm, parent, field);    \
    if (parent != NULL) {    \
        if (comp < 0)    \
            RB_LEFT(parent, field) = elm;    \
        else    \
            RB_RIGHT(parent, field) = elm;    \
        RB_AUGMENT(parent);    \
    } else    \
        RB_ROOT(head) = elm;    \
    name##_RB_INSERT_COLOR(head, \
    elm);    \
    return (NULL);    \
}    \
    \
/* Finds the node with the same key as elm */    \
attr struct type *    \
name##_RB_FIND(struct name *head, struct type *elm) \
{    \
    struct type *tmp = RB_ROOT(head);    \
    int comp;    \
    while (tmp) {    \
        comp = cmp(elm, tmp);    \

```



```

    if (comp < 0)    \
        tmp = RB_LEFT(tmp, field); \
    else if (comp > 0) \
        tmp = RB_RIGHT(tmp, field); \
    else \
        return (tmp); \
} \
return (NULL); \
} \
\
/* Finds the first node greater than or equal to the search key */\
attr struct type * \
name##_RB_NFIND(struct name *head, struct type *elm) \
{ \
    struct type *tmp = RB_ROOT(head); \
    struct type *res = NULL; \
    int comp; \
    while (tmp) { \
        comp = cmp(elm, tmp); \
        if (comp < 0) { \
            res = tmp; \
            tmp = RB_LEFT(tmp, field); \
        } \
        else if (comp > 0) \
            tmp = \
RB_RIGHT(tmp, field); \
        else \
            return (tmp); \
    } \
    return (res); \
} \
\
/* ARGSUSED */ \
attr struct type * \
name##_RB_NEXT(struct type *elm) \
{ \
    if (RB_RIGHT(elm, field)) { \
        elm = RB_RIGHT(elm, field); \
        while (RB_LEFT(elm, field)) \
            elm = RB_LEFT(elm, field); \
    } else { \
        if (RB_PARENT(elm, field) && \
            (elm == RB_LEFT(RB_PARENT(elm, field), field))) \
            elm = RB_PARENT(elm, field); \
        else { \
            while (RB_PARENT(elm, field) && \
                (elm == RB_RIGHT(RB_PARENT(elm, field), field))) \
                elm = RB_PARENT(elm, field); \
        } \
    } \
}

```

```

    elm = RB_PARENT(elm, field); \
} \
} \
return (elm); \
} \
\
/* ARGSUSED */ \
attr struct type * \
name##_RB_PREV(struct type *elm) \
{ \
    if (RB_LEFT(elm, field)) { \
        elm = RB_LEFT(elm, field); \
        while (RB_RIGHT(elm, field)) \
            elm = RB_RIGHT(elm, field); \
    }
else { \
    if (RB_PARENT(elm, field) && \
        (elm == RB_RIGHT(RB_PARENT(elm, field), field))) \
        elm = RB_PARENT(elm, field); \
    else { \
        while (RB_PARENT(elm, field) && \
            (elm == RB_LEFT(RB_PARENT(elm, field), field))) \
            elm = RB_PARENT(elm, field); \
        elm = RB_PARENT(elm, field); \
    } \
} \
return (elm); \
} \
\
attr struct type * \
name##_RB_MINMAX(struct name *head, int val) \
{ \
    struct type *tmp = RB_ROOT(head); \
    struct type *parent = NULL; \
    while (tmp) { \
        parent = tmp; \
        if (val < 0) \
            tmp = RB_LEFT(tmp, field); \
        else \
            tmp = RB_RIGHT(tmp, field); \
    } \
    return (parent); \
}

#define RB_NEGINF -1
#define RB_INF 1

#define RB_INSERT(name, x, y) name##_RB_INSERT(x, y)

```

```

#define RB_REMOVE(name, x, y) name##_RB_REMOVE(x, y)
#define RB_FIND(name, x, y) name##_RB_FIND(x, y)
#define RB_NFIND(name, x, y) name##_RB_NFIND(x,
y)
#define RB_NEXT(name, x, y) name##_RB_NEXT(y)
#define RB_PREV(name, x, y) name##_RB_PREV(y)
#define RB_MIN(name, x) name##_RB_MINMAX(x, RB_NEGINF)
#define RB_MAX(name, x) name##_RB_MINMAX(x, RB_INF)

#define RB_FOREACH(x, name, head) \
for ((x) = RB_MIN(name, head); \
(x) != NULL; \
(x) = name##_RB_NEXT(x))

#define RB_FOREACH_FROM(x, name, y) \
for ((x) = (y); \
((x) != NULL) && ((y) = name##_RB_NEXT(x), (x) != NULL); \
(x) = (y))

#define RB_FOREACH_SAFE(x, name, head, y) \
for ((x) = RB_MIN(name, head); \
((x) != NULL) && ((y) = name##_RB_NEXT(x), (x) != NULL); \
(x) = (y))

#define RB_FOREACH_REVERSE(x, name, head) \
for ((x) = RB_MAX(name, head); \
(x) != NULL; \
(x) = name##_RB_PREV(x))

#define RB_FOREACH_REVERSE_FROM(x, name, y) \
for ((x) = (y); \
((x) != NULL) && ((y) = name##_RB_PREV(x), (x) != NULL); \
(x) = (y))

#define RB_FOREACH_REVERSE_SAFE(x, name,
head, y) \
for ((x) = RB_MAX(name, head); \
((x) != NULL) && ((y) = name##_RB_PREV(x), (x) != NULL); \
(x) = (y))

#endif /* _SYS_TREE_H_ */
pkgname=linux-headers
pkgver=6.14.2 # Follow the latest Linux stable
_kernver=${pkgver%.*}
pkgrel=0
pkgdesc="Linux system headers"
url="https://kernel.org/"
arch="all" # Headers are architecture specific

```

```
license="GPL-2.0-only"
makedepends="perl"
options="!check !dbg !strip !tracedeps !archcheck"
source="https://kernel.org/pub/linux/kernel/v6.x/linux-$_kernver.tar.xz
revert-broken-uapi.patch
0003-remove-inclusion-of-sysinfo.h-in-kernel.h.patch
```

1.18 ca-certificates 20250911-r0

1.18.1 Available under license :

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

```
/opt/cola/permits/2660733757_1759915527.765318/0/ca-certificates-20250911-r0-tar-gz/usr/share/ca-
certificates/mozilla/HARICA_TLS_RSA_Root_CA_2021.crt-----BEGIN CERTIFICATE-----
/opt/cola/permits/2660733757_1759915527.765318/0/ca-certificates-20250911-r0-tar-gz/usr/share/ca-
certificates/mozilla/QuoVadis_Root_CA_2.crt-----BEGIN CERTIFICATE-----
/opt/cola/permits/2660733757_1759915527.765318/0/ca-certificates-20250911-r0-tar-gz/usr/share/ca-
certificates/mozilla/TWCA_Global_Root_CA.crt-----BEGIN CERTIFICATE-----
/opt/cola/permits/2660733757_1759915527.765318/0/ca-certificates-20250911-r0-tar-gz/usr/share/ca-
certificates/mozilla/TrustAsia_TLS_RSA_Root_CA.crt-----BEGIN CERTIFICATE-----
```

Found in path(s):

*

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

```
-----BEGIN CERTIFICATE-----
MIIFWjCCA0KgAwIBAgISEdK7udcjGJ5AXwqdLdDfJWfRMA0GCSqGSIb3DQEBAUA
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7PYCLltbfpIrXTncvtgdokIzTfnvpCo7RGkerNIFo048p9gkUbJUHJNOxO97k4Vg
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```

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vouXsXgxT7PntgMTzlSdriVZzH81Xwj3QEUxCp6
-----END
CERTIFICATE-----

Found in path(s):

*

/ca-certificates-20250911-r0-tar-gz/usr/share/ca-certificates/mozilla/GlobalSign_Root_R46.crt

1.19 musl 1.2.5-r10

1.19.1 Available under license :

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* Implementation of SUSv4 XCU iconv utility

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* /aports-master-main-musl-zip/aports-master-main-musl/main/musl/getent.c

1.20 protobuf-go 1.36.9

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1.21 apk-tools 2.14.9-r3

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1.22 kelseyhightower-envconfig 1.4.0

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1.23 openssl 3.5.4-r0

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<signature of Ty Coon>, 1 April 1989
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1.24 pierrec-lz4 4.1.22

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1.25 bash 5.2.37-r0

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```
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```

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```
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```

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1.26 pam 1.7.0-r4

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Version 2, June 1991

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```
# Automatically generated by apkbuidl-cpan, template 4
# Contributor: Valery Kartel <valery.kartel@gmail.com>
# Maintainer: Celeste <cielesti@protonmail.com>
maintainer="Celeste <cielesti@protonmail.com>"
pkgname=perl-bsd-resource
pkgver=1.2911
pkgrel=10
#_pkgreal is used by apkbuidl-cpan to find modules at MetaCpan
_pkgreal=BSD-Resource
pkgdesc="Perl extension implements the BSD process resource limit functions"
url="https://metacpan.org/release/BSD-Resource/"
arch="all"
license="Artistic-2.0 OR LGPL-2.0"
depends="perl"
makedepends="perl-dev"
subpackages="$pkgname-doc"
source="https://cpan.metacpan.org/authors/id/J/JH/JHI/BSD-Resource-$pkgver.tar.gz"
builddir="$srcdir/$_pkgreal-$pkgver"
```

```
build() {
    export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
    PERL_MM_USE_DEFAULT=1 perl -I. Makefile.PL \
        INSTALLDIRS=vendor \
        NO_PACKLIST=1 \
        NO_PERLLOCAL=1
    make
}
```

```
check() {
    export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
    make test
}
```

```
package() {
    make DESTDIR="$pkgdir" install
}
```

```
sha512sums="
d0032d41c7c0468ed1c6d8f57b885f6cb97a5039d754c8cb60b2067daedaf53bd15fb6561a3d0f828df16dfa5417f663b
8065ba65f4fea16dc9262728b3b6b85
    BSD-Resource-1.2911.tar.gz
"
```

```

# Contributor: Maxim Karasev <begs@disroot.org>
# Maintainer: mio <miyopan@e.email>
pkgname=bsd-games
pkgver=3.3
pkgrel=2
pkgdesc="traditional text mode games from BSD"
url="https://bsd-games.sourceforge.io/"
arch="all"
license="BSD-3-Clause"
install="$pkgname.post-install"
makedepends="ncurses-dev coreutils" # configure causes busybox expr error
subpackages="$pkgname-doc"
source="https://sourceforge.net/projects/bsd-games/files/bsd-games-$pkgver.tar.gz
0001-bsd-games-scores-dir.patch
"

options="!check" # no tests

build() {
# some GNU autoconf options are ignored, but it works
./configure \
--build=$CBUILD \
--host=$CHOST \
--prefix=/usr \
--sysconfdir=/etc \
--mandir=/usr/share/man \
--sourcedir=/usr/share/$pkgname
make
}

package() {
make DESTDIR="$pkgdir" install
install -Dm644 LICENSE "$pkgdir"/usr/share/licenses/bsd-games/LICENSE
}

sha512sums="
aaf36d09d4fe68514a5c279063d7e77a9a9a84c447037cba974b29faa07eb80c2aab2379d0699c196b5c27ffe1b2bb2c6
8d3390143e0e62d5e3d210ccfb61294
bsd-games-3.3.tar.gz
e1def0d4835a877242c4173fae862e278a7858738e0bacacbb045a42bcabec2aa7c72d000bbd2421ce35fe66cdc1f52c0
577b7e278029ca5ed50f7aab22319f6 0001-bsd-games-scores-dir.patch
"

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```
# Maintainer: Natanael Copa <ncopa@alpinelinux.org>
```

```
pkgname=libart-lgpl
```

```
pkgver=2.3.21
```

```
pkgrel=8
```

```
pkgdesc="A library for high-performance 2D graphics"
```

```
url="https://www.levien.com/libart/"
```

```
arch="all"
```

```
options="!check" # No test suite.
```

```
license="LGPL-2.0-or-later"
```

```
subpackages="$pkgname-dev"
```

```
source="https://download.gnome.org/sources/libart-lgpl/2.3/libart-lgpl-$pkgver.tar.bz2"
```

```
"
```

```
builddir="$srcdir"/libart-lgpl-$pkgver
```

```
prepare() {  
    update_config_sub  
    default_prepare  
}
```

```
build() {  
    ./configure \  
    --build=$CBUILD \  
    --host=$CHOST \  
    --prefix=/usr  
    make  
}
```

```
package() {  
    make DESTDIR="$pkgdir" install  
}
```

```
sha512sums="8a632a6a4da59e5e8c02ec2f5a57e36d182b325b46513765425e5f171ff9ae326af1b133725beba28f7e7"
```


6654309e001aee9bace727b5b4c8589405256a3c020 libart_lgpl-2.3.21.tar.bz2"

mini_sendmail - accept email on behalf of real sendmail

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Contributor: Patrycja Rosa <alpine@ptrcnull.me>

Maintainer: Patrycja Rosa <alpine@ptrcnull.me>

pkgname=bsd-compat-headers

pkgver=0.7.2

pkgrel=6

pkgdesc="BSD compatibility headers (cdefs, queue, tree)"

url="https://gitlab.alpinelinux.org/alpine/aports"

arch="noarch"

license="BSD-2-Clause AND BSD-3-Clause"

source="

cdefs.h

queue.h

tree.h

"

builddir="\$srcdir"

options="!check" # just headers

package() {

mkdir -p "\$pkgdir"

install -Dm644 -t "\$pkgdir"/usr/include/sys \

cdefs.h queue.h tree.h

```

}
sha512sums="
37c8fc73c7aea7b490f7850927e2bb91d12137c9e59e22c084146d515696dbc7973b5de92f4c987ba080dd2502ba8312
7006442c3f019b6447a620c0cae73178 cdefs.h
2f0d5e6e4dc3350285cf17009265dddcbe12431c111868eea39bc8cb038ab7c1f2acacbb21735c4e9d4a1fd106a8fc0f86
11ea33987d4faba37dde5ce6da0750 queue.h
d9ac210d81feb8ad2655bc80fb065d3fe20ae4417b32b4a1711e6738a4870140005c13373b5d1846ef3ce5ae6da45f2da
cef2092881eded0a2e94f6a07752ef3 tree.h
"

# Contributor: Carlo Landmeter <clandmeter@alpinelinux.org>
# Maintainer: Kevin Daudt <kdaudt@alpinelinux.org>
pkgname=spdx-licenses
pkgver=3.26.0
pkgrel=0
pkgdesc="Various data formats for the SPDX License List"
url="https://spdx.org/"
arch="noarch"
options="!check" # no test suite
license="CC-BY-3.0"
source="license-list-data-$pkgver.tar.gz::https://github.com/spdx/license-list-data/archive/v$pkgver.tar.gz"
builddir="$srcdir/license-list-data-$pkgver"
subpackages="$pkgname-list"

_types="html json rdfa rdft rdfturtle rdfxml template text"

for type in $_types; do
    subpackages="$subpackages $pkgname-$type:_subpkg"
done

package() {
    mkdir -p "$pkgdir"
}

_subpkg() {
    local type=${subpkgname/$pkgname-/}
    pkgdesc="$pkgdesc ($type)"
    install_if="$pkgname=$pkgver-r$pkgrel"
    mkdir -p "$subpkgdir"/usr/share/spdx
    cp -r "$builddir"/$type "$subpkgdir"/usr/share/spdx/
}

list() {
    pkgdesc="$pkgdesc (licence list)"
    mkdir -p "$subpkgdir"/usr/share/spdx
    local i; for i in "$builddir"/text/*.txt;
    do
        local license=${i##*/}
        echo ${license%.*} >> "$subpkgdir"/usr/share/spdx/license.lst
    done
}

```

```
done
}
```

```
sha512sums="
67e618d4642dfe4f366935d9514d6f7941d3711e77c49bc1b340ac572d36015981b8f10c72a9f80f1d83e132ae7e5093c
0155e0c0e786e4777ee16d1cb7b885a license-list-data-3.26.0.tar.gz
"
```

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Parts Copyright (c) 1995 by C. Blanc and C. Schlick
The X-Spline code was written Carole Blanc (blanc@labri.u-bordeaux.fr) and Christophe Schlick (schlick@labri.u-bordeaux.fr) starting from an initial implementation done by C. Feuille, S. Grosbois, L. Maziere and L. Minihot as a student practice (Universite Bordeaux, France). For additional information about X-splines, see:
"X-Splines: A Spline Model Designed for the End User" by C. Blanc and C. Schlick, Proceedings of SIGGRAPH'95
<http://dept-info.labri.u-bordeaux.fr/~schlick/DOC/sig1.html>
Contributor: Dhruvin Gandhi <contact@dhruvin>
Maintainer: Patrycja Rosa <alpine@ptrcnull.me>
pkgname=py3-license-expression
_pkgname=license_expression
pkgver=30.4.1
pkgrel=0
pkgdesc="Library to parse, compare, simplify and normalize license expressions"
url="https://github.com/nexB/license-expression"
arch="noarch"
license="Apache-2.0"
depends="python3 py3-boolean.py"
makedepends="py3-setuptools py3-setuptools_scm py3-gp517 py3-wheel"

```

checkdepends="py3-pytest py3-pytest-xdist"
subpackages="$pkgname-pyc"
source="https://files.pythonhosted.org/packages/source/l/${pkgname}/${pkgname}-${pkgver}.tar.gz"
builddir="$srcdir/${pkgname}-${pkgver}"

build() {
    gpep517 build-wheel \
        --wheel-dir .dist \
        --output-fd 3 3>&1 >&2
}

check() {
    python3 -m venv --clear --without-pip --system-site-packages .testenv
    .testenv/bin/python3 -m installer .dist/*.whl
    .testenv/bin/python3 -m pytest
}

package() {
    python3 -m installer -d "$pkgdir" \
        .dist/*.whl
}

sha512sums="
114c630f098939757e49187e35b4e54883266a2ee9ca283724992420ef4c860f9606a8342da0ab74d93627c10805f312
fda3f699cbc7c4fbd47a71e220440fb0
    license_expression-30.4.1.tar.gz
"

/* $NetBSD: queue.h,v 1.70 2015/11/02 15:21:23 christos Exp $ */

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*

* @(#)queue.h 8.5 (Berkeley) 8/20/94

*/

#ifndef _SYS_QUEUE_H_

#define _SYS_QUEUE_H_

/*

* This file defines five types of data structures: singly-linked lists,
* lists, simple queues, tail queues, and circular queues.

*

* A singly-linked list is headed by a single forward pointer. The
* elements are singly linked for minimum space and
* pointer manipulation
* overhead at the expense of O(n) removal for arbitrary elements. New
* elements can be added to the list after an existing element or at the
* head of the list. Elements being removed from the head of the list
* should use the explicit macro for this purpose for optimum
* efficiency. A singly-linked list may only be traversed in the forward
* direction. Singly-linked lists are ideal for applications with large
* datasets and few or no removals or for implementing a LIFO queue.

*

* A list is headed by a single forward pointer (or an array of forward
* pointers for a hash table header). The elements are doubly linked
* so that an arbitrary element can be removed without a need to
* traverse the list. New elements can be added to the list before
* or after an existing element or at the head of the list. A list
* may only be traversed in the forward direction.

*

* A simple queue is headed by a pair of pointers, one the head of the
* list and the

other to the tail of the list. The elements are singly

* linked to save space, so elements can only be removed from the
* head of the list. New elements can be added to the list after
* an existing element, at the head of the list, or at the end of the
* list. A simple queue may only be traversed in the forward direction.

*

* A tail queue is headed by a pair of pointers, one to the head of the

- * list and the other to the tail of the list. The elements are doubly
- * linked so that an arbitrary element can be removed without a need to
- * traverse the list. New elements can be added to the list before or
- * after an existing element, at the head of the list, or at the end of
- * the list. A tail queue may be traversed in either direction.
- *
- * A circle queue is headed by a pair of pointers, one to the head of the
- * list and the other to the tail of the list. The elements are doubly
- * linked so that an arbitrary element can be removed without a need to
- * traverse the list. New elements
- can be added to the list before or after
- * an existing element, at the head of the list, or at the end of the list.
- * A circle queue may be traversed in either direction, but has a more
- * complex end of list detection.
- *
- * For details on the use of these macros, see the queue(3) manual page.
- */

```
/*
 * Include the definition of NULL only on NetBSD because sys/null.h
 * is not available elsewhere. This conditional makes the header
 * portable and it can simply be dropped verbatim into any system.
 * The caveat is that on other systems some other header
 * must provide NULL before the macros can be used.
 */
```

```
#ifdef __NetBSD__
#include <sys/null.h>
#endif

#if defined(QUEUEDEBUG)
# if defined(_KERNEL)
#  define QUEUEDEBUG_ABORT(...) panic(__VA_ARGS__)
# else
#  include <err.h>
#  define QUEUEDEBUG_ABORT(...) err(1, __VA_ARGS__)
# endif
#endif
```

```
/*
 * Singly-linked List definitions.
 */
#define SLIST_HEAD(name, type) \
struct name { \
    struct type *slh_first; /* first \
    element */ \
}

#define SLIST_HEAD_INITIALIZER(head) \
```

```

{ NULL }

#define SLIST_ENTRY(type)  \
struct {  \
    struct type *sle_next; /* next element */  \
}

/*
 * Singly-linked List access methods.
 */
#define SLIST_FIRST(head) ((head)->slh_first)
#define SLIST_END(head) NULL
#define SLIST_EMPTY(head) ((head)->slh_first == NULL)
#define SLIST_NEXT(elm, field) ((elm)->field.sle_next)

#define SLIST_FOREACH(var, head, field)  \
for((var) = (head)->slh_first;  \
    (var) != SLIST_END(head);  \
    (var) = (var)->field.sle_next)

#define SLIST_FOREACH_SAFE(var, head, field, tvar)  \
for ((var) = SLIST_FIRST((head));  \
    (var) != SLIST_END(head) &&  \
    ((tvar) = SLIST_NEXT((var), field), 1);  \
    (var) = (tvar))

/*
 * Singly-linked List functions.
 */
#define SLIST_INIT(head) do {  \
    (head)->slh_first = SLIST_END(head);  \
} while (/*CONSTCOND*/0)

#define SLIST_INSERT_AFTER(slistelm, elm, field) do {  \
    (elm)->field.sle_next = (slistelm)->field.sle_next;  \
    (slistelm)->field.sle_next  \
    = (elm);  \
} while (/*CONSTCOND*/0)

#define SLIST_INSERT_HEAD(head, elm, field) do {  \
    (elm)->field.sle_next = (head)->slh_first;  \
    (head)->slh_first = (elm);  \
} while (/*CONSTCOND*/0)

#define SLIST_REMOVE_AFTER(slistelm, field) do {  \
    (slistelm)->field.sle_next =  \
        SLIST_NEXT(SLIST_NEXT((slistelm), field), field);  \
} while (/*CONSTCOND*/0)

```

```

#define SLIST_REMOVE_HEAD(head, field) do { \
    (head)->slh_first = (head)->slh_first->field.sle_next; \
} while (/*CONSTCOND*/0)

#define SLIST_REMOVE(head, elm, type, field) do { \
    if ((head)->slh_first == (elm)) { \
        SLIST_REMOVE_HEAD((head), field); \
    } \
    else { \
        struct type *curelm = (head)->slh_first; \
        while(curelm->field.sle_next != (elm)) \
            curelm = curelm->field.sle_next; \
        curelm->field.sle_next = \
            curelm->field.sle_next->field.sle_next; \
    } \
} while (/*CONSTCOND*/0)

/*
 * List definitions.
 */
#define LIST_HEAD(name, type) \
struct name { \
    struct type *lh_first; /* first element */ \
}

#define LIST_HEAD_INITIALIZER(head) \
{ NULL }

#define LIST_ENTRY(type) \
struct { \
    struct type *le_next; /* next element */ \
    struct type **le_prev; /* address of previous next element */ \
}

/*
 * List access methods.
 */
#define LIST_FIRST(head) ((head)->lh_first)
#define LIST_END(head) NULL
#define LIST_EMPTY(head) ((head)->lh_first == LIST_END(head))
#define LIST_NEXT(elm, field) ((elm)->field.le_next)

#define LIST_FOREACH(var, head, field) \
for ((var) = ((head)->lh_first); \
    (var) != LIST_END(head); \
    (var) = ((var)->field.le_next))

```



```

#define LIST_FOREACH_SAFE(var, head, field, tvar) \
for ((var) = LIST_FIRST((head)); \
    (var) != LIST_END(head) && \
    ((tvar) = LIST_NEXT((var), field), 1); \
    (var) = (tvar))

#define LIST_MOVE(head1, head2) do { \
    LIST_INIT((head2)); \
    if (!LIST_EMPTY((head1))) \
    { \
        (head2)->lh_first = (head1)->lh_first; \
        LIST_INIT((head1)); \
    } \
} while (/*CONSTCOND*/0)

/*
 * List functions.
 */
#if defined(QUEUEDEBUG)
#define QUEUEDEBUG_LIST_INSERT_HEAD(head, elm, field) \
if ((head)->lh_first && \
    (head)->lh_first->field.le_prev != &(head)->lh_first) \
    QUEUEDEBUG_ABORT("LIST_INSERT_HEAD %p %s:%d", (head), \
        __FILE__, __LINE__);
#define QUEUEDEBUG_LIST_OP(elm, field) \
if ((elm)->field.le_next && \
    (elm)->field.le_next->field.le_prev != \
    &(elm)->field.le_next) \
    QUEUEDEBUG_ABORT("LIST_* forw %p %s:%d", (elm), \
        __FILE__, __LINE__); \
if (*(elm)->field.le_prev != (elm)) \
    QUEUEDEBUG_ABORT("LIST_* back %p %s:%d", (elm), \
        __FILE__, __LINE__);
#define QUEUEDEBUG_LIST_POSTREMOVE(elm, field) \
(elm)->field.le_next = (void *)1L; \
(elm)->field.le_prev = (void *)1L;
#else
#define QUEUEDEBUG_LIST_INSERT_HEAD(head, elm, field)
#define QUEUEDEBUG_LIST_OP(elm, field)
#define QUEUEDEBUG_LIST_POSTREMOVE(elm, field)
#endif

#define LIST_INIT(head) do { \
    (head)->lh_first = LIST_END(head); \
} while (/*CONSTCOND*/0)

```

```

#define LIST_INSERT_AFTER(listelm, elm, field) do { \
    QUEUEDEBUG_LIST_OP((listelm), field) \
    if (((elm)->field.le_next = (listelm)->field.le_next) != \
        LIST_END(head)) \
        (listelm)->field.le_next->field.le_prev = \
            &(elm)->field.le_next; \
    (listelm)->field.le_next = (elm); \
    (elm)->field.le_prev = &(listelm)->field.le_next; \
} while (/*CONSTCOND*/0)

#define LIST_INSERT_BEFORE(listelm, elm, field) do { \
    QUEUEDEBUG_LIST_OP((listelm), field) \
    (elm)->field.le_prev = (listelm)->field.le_prev; \
    (elm)->field.le_next = (listelm); \
    *(listelm)->field.le_prev = (elm); \
    (listelm)->field.le_prev = &(elm)->field.le_next; \
} while (/*CONSTCOND*/0)

#define LIST_INSERT_HEAD(head, elm, field) do { \
    QUEUEDEBUG_LIST_INSERT_HEAD((head), (elm), field) \
    if (((elm)->field.le_next \
        = (head)->lh_first) != LIST_END(head)) \
        (head)->lh_first->field.le_prev = &(elm)->field.le_next; \
    (head)->lh_first = (elm); \
    (elm)->field.le_prev = &(head)->lh_first; \
} while (/*CONSTCOND*/0)

#define LIST_REMOVE(elm, field) do { \
    QUEUEDEBUG_LIST_OP((elm), field) \
    if ((elm)->field.le_next != NULL) \
        (elm)->field.le_next->field.le_prev = \
            (elm)->field.le_prev; \
    *(elm)->field.le_prev = (elm)->field.le_next; \
    QUEUEDEBUG_LIST_POSTREMOVE((elm), field) \
} while (/*CONSTCOND*/0)

#define LIST_REPLACE(elm, elm2, field) do { \
    if (((elm2)->field.le_next = (elm)->field.le_next) != NULL) \
        (elm2)->field.le_next->field.le_prev = \
            &(elm2)->field.le_next; \
    (elm2)->field.le_prev = (elm)->field.le_prev; \
    *(elm2)->field.le_prev = (elm2); \
    QUEUEDEBUG_LIST_POSTREMOVE((elm), field) \
} while (/*CONSTCOND*/0)

/*
 * Simple queue definitions.
 */

```

```

#define SIMPLEQ_HEAD(name, type) \
struct name { \
    struct \
    type *sqh_first; /* first element */ \
    struct type **sqh_last; /* addr of last next element */ \
}

#define SIMPLEQ_HEAD_INITIALIZER(head) \
{ NULL, &(head).sqh_first }

#define SIMPLEQ_ENTRY(type) \
struct { \
    struct type *sqe_next; /* next element */ \
}

/*
 * Simple queue access methods.
 */
#define SIMPLEQ_FIRST(head) ((head)->sqh_first)
#define SIMPLEQ_END(head) NULL
#define SIMPLEQ_EMPTY(head) ((head)->sqh_first == SIMPLEQ_END(head))
#define SIMPLEQ_NEXT(elm, field) ((elm)->field.sqe_next)

#define SIMPLEQ_FOREACH(var, head, field) \
for ((var) = ((head)->sqh_first); \
     (var) != SIMPLEQ_END(head); \
     (var) = ((var)->field.sqe_next))

#define SIMPLEQ_FOREACH_SAFE(var, head, field, next) \
for ((var) = ((head)->sqh_first); \
     (var) != SIMPLEQ_END(head) && \
     ((next = ((var)->field.sqe_next)), 1); \
     (var) = (next))

/*
 * Simple queue functions.
 */
#define SIMPLEQ_INIT(head) do { \
    (head)->sqh_first = NULL; \
    (head)->sqh_last \
    = &(head)->sqh_first; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_INSERT_HEAD(head, elm, field) do { \
    if (((elm)->field.sqe_next = (head)->sqh_first) == NULL) \
        (head)->sqh_last = &(elm)->field.sqe_next; \
    (head)->sqh_first = (elm); \
} while (/*CONSTCOND*/0)

```

```

#define SIMPLEQ_INSERT_TAIL(head, elm, field) do { \
    (elm)->field.sqe_next = NULL; \
    *(head)->sqh_last = (elm); \
    (head)->sqh_last = &(elm)->field.sqe_next; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_INSERT_AFTER(head, listelm, elm, field) do { \
    if (((elm)->field.sqe_next = (listelm)->field.sqe_next) == NULL) \
        (head)->sqh_last = &(elm)->field.sqe_next; \
    (listelm)->field.sqe_next = (elm); \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_REMOVE_HEAD(head, field) do { \
    if (((head)->sqh_first = (head)->sqh_first->field.sqe_next) == NULL) \
        (head)->sqh_last = &(head)->sqh_first; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_REMOVE_AFTER(head, elm, field) do { \
    if \
        (((elm)->field.sqe_next = (elm)->field.sqe_next->field.sqe_next) \
         == NULL) \
        (head)->sqh_last = &(elm)->field.sqe_next; \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_REMOVE(head, elm, type, field) do { \
    if ((head)->sqh_first == (elm)) { \
        SIMPLEQ_REMOVE_HEAD((head), field); \
    } else { \
        struct type *curelm = (head)->sqh_first; \
        while (curelm->field.sqe_next != (elm)) \
            curelm = curelm->field.sqe_next; \
        if ((curelm->field.sqe_next = \
            curelm->field.sqe_next->field.sqe_next) == NULL) \
            (head)->sqh_last = &(curelm)->field.sqe_next; \
    } \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_CONCAT(head1, head2) do { \
    if (!SIMPLEQ_EMPTY((head2))) { \
        *(head1)->sqh_last = (head2)->sqh_first; \
        (head1)->sqh_last = (head2)->sqh_last; \
        SIMPLEQ_INIT((head2)); \
    } \
} while (/*CONSTCOND*/0)

#define SIMPLEQ_LAST(head, type, field) \
    (SIMPLEQ_EMPTY((head)) ? \

```

```

NULL :    \
        ((struct type
*)(void *) \
        ((char *)((head)->sqh_last) - offsetof(struct type, field))))

/*
 * Tail queue definitions.
 */
#define _TAILQ_HEAD(name, type, qual)    \
struct name {                            \
    qual type *tqh_first; /* first element */ \
    qual type *qual *tqh_last; /* addr of last next element */ \
}
#define TAILQ_HEAD(name, type) _TAILQ_HEAD(name, struct type,)

#define TAILQ_HEAD_INITIALIZER(head)    \
{ TAILQ_END(head), &(head).tqh_first }

#define _TAILQ_ENTRY(type, qual)    \
struct {                             \
    qual type *tqe_next; /* next element */ \
    qual type *qual *tqe_prev; /* address of previous next element */ \
}
#define TAILQ_ENTRY(type) _TAILQ_ENTRY(struct type,)

/*
 * Tail queue access methods.
 */
#define TAILQ_FIRST(head) ((head)->tqh_first)
#define TAILQ_END(head) (NULL)
#define TAILQ_NEXT(elm, field) ((elm)->field.tqe_next)
#define TAILQ_LAST(head, headname) \
    (((struct headname *) (void *)((head)->tqh_last))->tqh_last)
#define TAILQ_PREV(elm, headname, field) \
    (((struct headname *) (void *)((elm)->field.tqe_prev))->tqh_last)
#define TAILQ_EMPTY(head) (TAILQ_FIRST(head) == TAILQ_END(head))

#define TAILQ_FOREACH(var, head, field)    \
for ((var) = ((head)->tqh_first); \
     (var) != TAILQ_END(head); \
     (var) = ((var)->field.tqe_next))

#define TAILQ_FOREACH_SAFE(var, head, field, next) \
for ((var) = ((head)->tqh_first); \
     (var) != TAILQ_END(head) && \
     ((next) = TAILQ_NEXT(var, field), 1); (var) = (next))

```

```

#define TAILQ_FOREACH_REVERSE(var, head, headname, field) \
for ((var) = TAILQ_LAST((head), headname); \
    (var) != TAILQ_END(head); \
    (var) = TAILQ_PREV((var), headname, field))

#define TAILQ_FOREACH_REVERSE_SAFE(var, head, headname, field, prev) \
for ((var) = TAILQ_LAST((head), headname); \
    (var) != TAILQ_END(head) && \
    ((prev) = TAILQ_PREV((var), headname, field), 1); (var) = (prev))

/*
 * Tail queue functions.
 */
#if defined(QUEUEDEBUG)
#define QUEUEDEBUG_TAILQ_INSERT_HEAD(head, \
    elm, field) \
    if ((head)->tqh_first && \
        (head)->tqh_first->field.tqe_prev != &(head)->tqh_first) \
        QUEUEDEBUG_ABORT("TAILQ_INSERT_HEAD %p %s:%d", (head), \
            __FILE__, __LINE__);
#define QUEUEDEBUG_TAILQ_INSERT_TAIL(head, elm, field) \
    if (*(head)->tqh_last != NULL) \
        QUEUEDEBUG_ABORT("TAILQ_INSERT_TAIL %p %s:%d", (head), \
            __FILE__, __LINE__);
#define QUEUEDEBUG_TAILQ_OP(elm, field) \
    if ((elm)->field.tqe_next && \
        (elm)->field.tqe_next->field.tqe_prev != \
            &(elm)->field.tqe_next) \
        QUEUEDEBUG_ABORT("TAILQ_* forw %p %s:%d", (elm), \
            __FILE__, __LINE__); \
    if (*(elm)->field.tqe_prev != (elm)) \
        QUEUEDEBUG_ABORT("TAILQ_* back %p %s:%d", (elm), \
            __FILE__, __LINE__);
#define QUEUEDEBUG_TAILQ_PREREMOVE(head, elm, field) \
    if ((elm)->field.tqe_next == NULL && \
        (head)->tqh_last != &(elm)->field.tqe_next) \
        QUEUEDEBUG_ABORT("TAILQ_PREREMOVE head %p elm %p %s:%d", \
            (head), (elm), __FILE__, \
            __LINE__);
#define QUEUEDEBUG_TAILQ_POSTREMOVE(elm, field) \
    (elm)->field.tqe_next = (void *)1L; \
    (elm)->field.tqe_prev = (void *)1L;
#else
#define QUEUEDEBUG_TAILQ_INSERT_HEAD(head, elm, field)
#define QUEUEDEBUG_TAILQ_INSERT_TAIL(head, elm, field)
#define QUEUEDEBUG_TAILQ_OP(elm, field)
#define QUEUEDEBUG_TAILQ_PREREMOVE(head, elm, field)

```

```

#define QUEUEDEBUG_TAILQ_POSTREMOVE(elm, field)
#endif

#define TAILQ_INIT(head) do { \
    (head)->tqh_first = TAILQ_END(head); \
    (head)->tqh_last = &(head)->tqh_first; \
} while (/*CONSTCOND*/0)

#define TAILQ_INSERT_HEAD(head, elm, field) do { \
    QUEUEDEBUG_TAILQ_INSERT_HEAD((head), (elm), field) \
    if (((elm)->field.tqe_next = (head)->tqh_first) != TAILQ_END(head)) \
        (head)->tqh_first->field.tqe_prev = \
            &(elm)->field.tqe_next; \
    else \
        (head)->tqh_last = &(elm)->field.tqe_next; \
    (head)->tqh_first = (elm); \
    (elm)->field.tqe_prev = &(head)->tqh_first; \
} while (/*CONSTCOND*/0)

#define TAILQ_INSERT_TAIL(head, \
    elm, field) do { \
    QUEUEDEBUG_TAILQ_INSERT_TAIL((head), (elm), field) \
    (elm)->field.tqe_next = TAILQ_END(head); \
    (elm)->field.tqe_prev = (head)->tqh_last; \
    *(head)->tqh_last = (elm); \
    (head)->tqh_last = &(elm)->field.tqe_next; \
} while (/*CONSTCOND*/0)

#define TAILQ_INSERT_AFTER(head, listelm, elm, field) do { \
    QUEUEDEBUG_TAILQ_OP((listelm), field) \
    if (((elm)->field.tqe_next = (listelm)->field.tqe_next) != \
        TAILQ_END(head)) \
        (elm)->field.tqe_next->field.tqe_prev = \
            &(elm)->field.tqe_next; \
    else \
        (head)->tqh_last = &(elm)->field.tqe_next; \
    (listelm)->field.tqe_next = (elm); \
    (elm)->field.tqe_prev = &(listelm)->field.tqe_next; \
} while (/*CONSTCOND*/0)

#define TAILQ_INSERT_BEFORE(listelm, elm, field) do { \
    QUEUEDEBUG_TAILQ_OP((listelm), field) \
    (elm)->field.tqe_prev = (listelm)->field.tqe_prev; \
    (elm)->field.tqe_next = (listelm); \
    *(listelm)->field.tqe_prev = (elm); \
    (listelm)->field.tqe_prev \
        = &(elm)->field.tqe_next; \
} while (/*CONSTCOND*/0)

```

```
#define TAILQ_REMOVE(head, elm, field) do { \
    QUEUEDEBUG_TAILQ_PREREMOVE((head), (elm), field) \
    QUEUEDEBUG_TAILQ_OP((elm), field) \
    if (((elm)->field.tqe_next) != TAILQ_END(head)) \
        (elm)->field.tqe_next->field.tqe_prev = \
            (elm)->field.tqe_prev; \
    else \
        (head)->tqh_last = (elm)->field.tqe_prev; \
        *(elm)->field.tqe_prev = (elm)->field.tqe_next; \
    QUEUEDEBUG_TAILQ_POSTREMOVE((elm), field); \
} while (/*CONSTCOND*/0)
```

```
#define TAILQ_REPLACE(head, elm, elm2, field) do { \
    if (((elm2)->field.tqe_next = (elm)->field.tqe_next) != \
        TAILQ_END(head)) \
        (elm2)->field.tqe_next->field.tqe_prev = \
            &(elm2)->field.tqe_next; \
    else \
        (head)->tqh_last = &(elm2)->field.tqe_next; \
        (elm2)->field.tqe_prev = (elm)->field.tqe_prev; \
        *(elm2)->field.tqe_prev = (elm2); \
    QUEUEDEBUG_TAILQ_POSTREMOVE((elm), \
        field); \
} while (/*CONSTCOND*/0)
```

```
#define TAILQ_CONCAT(head1, head2, field) do { \
    if (!TAILQ_EMPTY(head2)) { \
        *(head1)->tqh_last = (head2)->tqh_first; \
        (head2)->tqh_first->field.tqe_prev = (head1)->tqh_last; \
        (head1)->tqh_last = (head2)->tqh_last; \
        TAILQ_INIT((head2)); \
    } \
} while (/*CONSTCOND*/0)
```

/*

* Singly-linked Tail queue declarations.

*/

```
#define STAILQ_HEAD(name, type) \
struct name { \
    struct type *stqh_first; /* first element */ \
    struct type **stqh_last; /* addr of last next element */ \
}
```

```
#define STAILQ_HEAD_INITIALIZER(head) \
{ NULL, &(head).stqh_first }
```

```
#define STAILQ_ENTRY(type) \
struct type {
```



```

struct {
    \
    struct type *stqe_next; /* next element */ \
}

/*
 * Singly-linked Tail queue access methods.
 */
#define STAILQ_FIRST(head) ((head)->stqh_first)
#define STAILQ_END(head) NULL
#define STAILQ_NEXT(elm, field) ((elm)->field.stqe_next)
#define STAILQ_EMPTY(head) (STAILQ_FIRST(head)
    == STAILQ_END(head))

/*
 * Singly-linked Tail queue functions.
 */
#define STAILQ_INIT(head) do { \
    (head)->stqh_first = NULL; \
    (head)->stqh_last = &(head)->stqh_first; \
} while (/*CONSTCOND*/0)

#define STAILQ_INSERT_HEAD(head, elm, field) do { \
    if (((elm)->field.stqe_next = (head)->stqh_first) == NULL) \
        (head)->stqh_last = &(elm)->field.stqe_next; \
    (head)->stqh_first = (elm); \
} while (/*CONSTCOND*/0)

#define STAILQ_INSERT_TAIL(head, elm, field) do { \
    (elm)->field.stqe_next = NULL; \
    *(head)->stqh_last = (elm); \
    (head)->stqh_last = &(elm)->field.stqe_next; \
} while (/*CONSTCOND*/0)

#define STAILQ_INSERT_AFTER(head, listelm, elm, field) do { \
    if (((elm)->field.stqe_next = (listelm)->field.stqe_next) == NULL) \
        (head)->stqh_last = &(elm)->field.stqe_next; \
    (listelm)->field.stqe_next = (elm); \
} while (/*CONSTCOND*/0)

#define STAILQ_REMOVE_HEAD(head, field) do { \
    if (((head)->stqh_first = (head)->stqh_first->field.stqe_next) \
        == NULL) \
        (head)->stqh_last = &(head)->stqh_first; \
} while (/*CONSTCOND*/0)

#define STAILQ_REMOVE(head, elm, type, field) do { \
    if ((head)->stqh_first == (elm)) { \
        STAILQ_REMOVE_HEAD((head), field); \

```

```

} else { \
    struct type *curelm = (head)->stqh_first; \
    while (curelm->field.stqe_next != (elm)) \
        curelm = curelm->field.stqe_next; \
    if ((curelm->field.stqe_next = \
        curelm->field.stqe_next->field.stqe_next) == NULL) \
        (head)->stqh_last = &(curelm)->field.stqe_next; \
} \
} while (/*CONSTCOND*/0)

#define STAILQ_FOREACH(var, head, field) \
    for ((var) = ((head)->stqh_first); \
        (var); \
        (var) = ((var)->field.stqe_next))

#define STAILQ_FOREACH_SAFE(var, head, field, tvar) \
    for ((var) = STAILQ_FIRST((head)); \
        (var) && ((tvar) = STAILQ_NEXT((var), field), 1); \
        (var) = (tvar))

#define STAILQ_CONCAT(head1, head2) do { \
    if (!STAILQ_EMPTY((head2))) { \
        *(head1)->stqh_last \
        = (head2)->stqh_first; \
        (head1)->stqh_last = (head2)->stqh_last; \
        STAILQ_INIT((head2)); \
    } \
} while (/*CONSTCOND*/0)

#define STAILQ_LAST(head, type, field) \
    (STAILQ_EMPTY((head)) ? \
    NULL : \
    ((struct type *) (void *) \
    ((char *)((head)->stqh_last) - offsetof(struct type, field))))

#ifdef _KERNEL
/*
 * Circular queue definitions. Do not use. We still keep the macros
 * for compatibility but because of pointer aliasing issues their use
 * is discouraged!
 */

/*
 * __launder_type(): We use this ugly hack to work around the the compiler
 * noticing that two types may not alias each other and elide tests in code.
 * We hit this in the CIRCLEQ macros when comparing 'struct name *' and
 * 'struct type *' (see CIRCLEQ_HEAD()). Modern compilers (such as GCC

```

```

* 4.8) declare these comparisons as always false, causing the code to
* not run as designed.
*
* This hack is only to be used for comparisons and thus can be fully const.
* Do not use for assignment.
*
* If we ever choose to change the ABI of the CIRCLEQ macros, we could fix
* this by changing the head/tail sentinel values, but see the note above
* this one.
*/
static __inline const void * __launder_type(const void *);
static __inline const void *
__launder_type(const void *__x)
{
    __asm __volatile("" : "+r" (__x));
    return __x;
}

#if defined(QUEUEDEBUG)
#define QUEUEDEBUG_CIRCLEQ_HEAD(head, field) \
    if ((head)->cqh_first != CIRCLEQ_ENDC(head) && \
        (head)->cqh_first->field.cqe_prev != CIRCLEQ_ENDC(head)) \
        QUEUEDEBUG_ABORT("CIRCLEQ head forw %p %s:%d", (head), \
            __FILE__, __LINE__); \
    if ((head)->cqh_last != CIRCLEQ_ENDC(head) && \
        (head)->cqh_last->field.cqe_next != CIRCLEQ_ENDC(head)) \
        QUEUEDEBUG_ABORT("CIRCLEQ head back %p %s:%d", (head), \
            __FILE__, __LINE__);
#define QUEUEDEBUG_CIRCLEQ_ELM(head, elm, field) \
    if ((elm)->field.cqe_next == CIRCLEQ_ENDC(head)) { \
        if ((head)->cqh_last != (elm)) \
            QUEUEDEBUG_ABORT("CIRCLEQ \
elm last %p %s:%d", \
                (elm), __FILE__, __LINE__); \
    } else { \
        if ((elm)->field.cqe_next->field.cqe_prev != (elm)) \
            QUEUEDEBUG_ABORT("CIRCLEQ elm forw %p %s:%d", \
                (elm), __FILE__, __LINE__); \
    } \
    if ((elm)->field.cqe_prev == CIRCLEQ_ENDC(head)) { \
        if ((head)->cqh_first != (elm)) \
            QUEUEDEBUG_ABORT("CIRCLEQ elm first %p %s:%d", \
                (elm), __FILE__, __LINE__); \
    } else { \
        if ((elm)->field.cqe_prev->field.cqe_next != (elm)) \
            QUEUEDEBUG_ABORT("CIRCLEQ elm prev %p %s:%d", \
                (elm), __FILE__, __LINE__); \
    }

```

```

#define QUEUEDEBUG_CIRCLEQ_POSTREMOVE(elm, field) \
    (elm)->field.cqe_next = (void *)1L; \
    (elm)->field.cqe_prev = (void *)1L;
#else
#define QUEUEDEBUG_CIRCLEQ_HEAD(head, field)
#define QUEUEDEBUG_CIRCLEQ_ELM(head, elm, field)
#define QUEUEDEBUG_CIRCLEQ_POSTREMOVE(elm, field)
#endif

#define CIRCLEQ_HEAD(name, type) \
    struct name { \
        struct type *cqh_first; /* \
        first element */ \
        struct type *cqh_last; /* last element */ \
    }

#define CIRCLEQ_HEAD_INITIALIZER(head) \
    { CIRCLEQ_END(&head), CIRCLEQ_END(&head) }

#define CIRCLEQ_ENTRY(type) \
    struct { \
        struct type *cqe_next; /* next element */ \
        struct type *cqe_prev; /* previous element */ \
    }

/*
 * Circular queue functions.
 */
#define CIRCLEQ_INIT(head) do { \
    (head)->cqh_first = CIRCLEQ_END(head); \
    (head)->cqh_last = CIRCLEQ_END(head); \
} while (/*CONSTCOND*/0)

#define CIRCLEQ_INSERT_AFTER(head, listelm, elm, field) do { \
    QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \
    QUEUEDEBUG_CIRCLEQ_ELM((head), (listelm), field) \
    (elm)->field.cqe_next = (listelm)->field.cqe_next; \
    (elm)->field.cqe_prev = (listelm); \
    if ((listelm)->field.cqe_next == CIRCLEQ_ENDC(head)) \
        (head)->cqh_last = (elm); \
    else \
        (listelm)->field.cqe_next->field.cqe_prev = (elm); \
    (listelm)->field.cqe_next = (elm); \
} while (/*CONSTCOND*/0)

#define CIRCLEQ_INSERT_BEFORE(head, \
    listelm, elm, field) do { \
    QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \

```

```

QUEUEDEBUG_CIRCLEQ_ELM((head), (listelm), field) \
(elm)->field.cqe_next = (listelm); \
(elm)->field.cqe_prev = (listelm)->field.cqe_prev; \
if ((listelm)->field.cqe_prev == CIRCLEQ_ENDC(head)) \
(head)->cqh_first = (elm); \
else \
(listelm)->field.cqe_prev->field.cqe_next = (elm); \
(listelm)->field.cqe_prev = (elm); \
} while (/*CONSTCOND*/0)

```

```

#define CIRCLEQ_INSERT_HEAD(head, elm, field) do { \
QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \
(elm)->field.cqe_next = (head)->cqh_first; \
(elm)->field.cqe_prev = CIRCLEQ_END(head); \
if ((head)->cqh_last == CIRCLEQ_ENDC(head)) \
(head)->cqh_last = (elm); \
else \
(head)->cqh_first->field.cqe_prev = (elm); \
(head)->cqh_first = (elm); \
} while (/*CONSTCOND*/0)

```

```

#define CIRCLEQ_INSERT_TAIL(head, elm, field) do { \
QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \
(elm)->field.cqe_next \
= CIRCLEQ_END(head); \
(elm)->field.cqe_prev = (head)->cqh_last; \
if ((head)->cqh_first == CIRCLEQ_ENDC(head)) \
(head)->cqh_first = (elm); \
else \
(head)->cqh_last->field.cqe_next = (elm); \
(head)->cqh_last = (elm); \
} while (/*CONSTCOND*/0)

```

```

#define CIRCLEQ_REMOVE(head, elm, field) do { \
QUEUEDEBUG_CIRCLEQ_HEAD((head), field) \
QUEUEDEBUG_CIRCLEQ_ELM((head), (elm), field) \
if ((elm)->field.cqe_next == CIRCLEQ_ENDC(head)) \
(head)->cqh_last = (elm)->field.cqe_prev; \
else \
(elm)->field.cqe_next->field.cqe_prev = \
(elm)->field.cqe_prev; \
if ((elm)->field.cqe_prev == CIRCLEQ_ENDC(head)) \
(head)->cqh_first = (elm)->field.cqe_next; \
else \
(elm)->field.cqe_prev->field.cqe_next = \
(elm)->field.cqe_next; \
QUEUEDEBUG_CIRCLEQ_POSTREMOVE((elm), field) \
} while (/*CONSTCOND*/0)

```

```

#define CIRCLEQ_FOREACH(var, head, field) \
for ((var) = ((head)->cqh_first); \
(var) != CIRCLEQ_ENDC(head); \
(var) \
= ((var)->field.cqe_next))

#define CIRCLEQ_FOREACH_REVERSE(var, head, field) \
for ((var) = ((head)->cqh_last); \
(var) != CIRCLEQ_ENDC(head); \
(var) = ((var)->field.cqe_prev))

/*
 * Circular queue access methods.
 */
#define CIRCLEQ_FIRST(head) ((head)->cqh_first)
#define CIRCLEQ_LAST(head) ((head)->cqh_last)
/* For comparisons */
#define CIRCLEQ_ENDC(head) (__launter_type(head))
/* For assignments */
#define CIRCLEQ_END(head) ((void *)(head))
#define CIRCLEQ_NEXT(elm, field) ((elm)->field.cqe_next)
#define CIRCLEQ_PREV(elm, field) ((elm)->field.cqe_prev)
#define CIRCLEQ_EMPTY(head) \
(CIRCLEQ_FIRST(head) == CIRCLEQ_ENDC(head))

#define CIRCLEQ_LOOP_NEXT(head, elm, field) \
(((elm)->field.cqe_next == CIRCLEQ_ENDC(head)) \
? ((head)->cqh_first) \
: (elm->field.cqe_next))
#define CIRCLEQ_LOOP_PREV(head, elm, field) \
(((elm)->field.cqe_prev == CIRCLEQ_ENDC(head)) \
? ((head)->cqh_last) \
: \
(elm->field.cqe_prev))
#endif /* !_KERNEL */

#endif /* !_SYS_QUEUE_H_ */
#ifndef _SYS_CDEFS_H_
#define _SYS_CDEFS_H_

#warning usage of non-standard #include <sys/cdefs.h> is deprecated

#undef __P
#undef __PMT

#define __P(args) args
#define __PMT(args) args

```

```

#define __CONCAT(x,y) x ## y
#define __STRING(x) #x

#ifdef __cplusplus
# define __BEGIN_DECLS extern "C" {
# define __END_DECLS }
#else
# define __BEGIN_DECLS
# define __END_DECLS
#endif

#if defined(__GNUC__) && !defined(__cplusplus)
# define __THROW __attribute__((__nothrow__))
# define __NTH(fct) __attribute__((__nothrow__)) fct
#else
# define __THROW
# define __NTH(fct) fct
#endif

#endif /* _SYS_CDEFS_H_ */
# Contributor: Fabian Affolter <fabian@affolter-engineering.ch>
# Maintainer: Fabian Affolter <fabian@affolter-engineering.ch>
pkgname=py3-flake8-copyright
_pkgname=flake8-copyright
pkgver=0.2.4
pkgrel=3
pkgdesc="Extension for flake8 which checks for copyrights"
options="!check" # No testsuite
url="https://github.com/savoirfairelinux/flake8-copyright"
arch="noarch"
license="MIT"
depends="py3-flake8 py3-setuptools"
makedepends="py3-gpep517 py3-wheel"
subpackages="$pkgname-pyc"
source="https://files.pythonhosted.org/packages/source/${_pkgname:0:1}/${_pkgname}/${_pkgname}-${pkgver}.tar.gz"
builddir="$srcdir"/$_pkgname-$pkgver

replaces="py-flake8-copyright" # Backwards compatibility
provides="py-flake8-copyright=${pkgver}-r${pkgrel}" # Backwards compatibility

build() {
    gpep517 build-wheel \
        --wheel-dir .dist \
        --output-fd 3 3>&1 >&2
}

package() {

```

```

gpep517 install-wheel --destdir "$pkgdir" \
    .dist/*.whl
}

sha512sums="
a6ab47e1bb715618f075c51f398e18180404871b3b0faf1c2d30701d5203db6bc23771bf22ffb5bafcd8ee856b9b64237
b316bd503ae7dceed6ca284ccd5a74d
    flake8-copyright-0.2.4.tar.gz
"

# Maintainer: fossdd <fossdd@pwned.life>
pkgname=cargo-license
pkgver=0.6.1
pkgrel=1
pkgdesc="Cargo subcommand to see license of dependencies"
url="https://github.com/onur/cargo-license"
arch="all"
license="MIT"
makedepends="cargo cargo-auditable"
source="$pkgname-$pkgver.tar.gz::https://crates.io/api/v1/crates/cargo-license/$pkgver/download"

prepare() {
    default_prepare

    cargo fetch --target="$CTARGET" --locked
}

build() {
    cargo auditable build --release --frozen
}

check() {
    cargo test --frozen
}

package() {
    install -Dm755 target/release/cargo-license -t "$pkgdir"/usr/bin
}

sha512sums="
36215145e79965be090ae2f5ce6f5eb208465eb67a94c26bed1fe70a131c46c6dc35695e30852759b7366883fbc3caf00
272d796ac634f0a5e1d49232b6b29d5 cargo-license-0.6.1.tar.gz
"

/* $NetBSD: tree.h,v 1.20 2013/09/14 13:20:45 joerg Exp $ */
/* $OpenBSD: tree.h,v 1.13 2011/07/09 00:19:45 pirofti Exp $ */
/* Modified by Void Linux. */
/*
* Copyright 2002 Niels Provos <provos@citi.umich.edu>
* All rights reserved.

```



```

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* THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/

```

```

#ifndef _SYS_TREE_H_
#define _SYS_TREE_H_

#ifdef __GNUC__
#define __GNUC_PREREQ__(x, y) \
    ((__GNUC__ == (x) && __GNUC_MINOR__ >= (y)) || \
     (__GNUC__ > (x)))
#else
#define __GNUC_PREREQ__(x, y) 0
#endif

#if __GNUC_PREREQ__(2, 7) || defined(__lint__)
#define _sys_tree_h_unused __attribute__((__unused__))
#else
#define _sys_tree_h_unused /* delete */
#endif

```

```

/*
* This file defines data structures for different types of trees:
* splay trees and red-black trees.
*
* A splay tree is a self-organizing
* data structure. Every operation
* on the tree causes a splay to happen. The splay moves the requested
* node to the root of the tree and partly rebalances it.

```

- *
 - * This has the benefit that request locality causes faster lookups as
 - * the requested nodes move to the top of the tree. On the other hand,
 - * every lookup causes memory writes.
- *
 - * The Balance Theorem bounds the total access time for m operations
 - * and n inserts on an initially empty tree as $O((m + n)\lg n)$. The
 - * amortized cost for a sequence of m accesses to a splay tree is $O(\lg n)$;
- *
 - * A red-black tree is a binary search tree with the node color as an
 - * extra attribute. It fulfills a set of conditions:
 - * - every search path from the root to a leaf consists of the
 - * same number of black nodes,
 - * - each red node (except for the root) has a black parent,
 - * - each leaf node is black.
- *
 - * Every operation on a red-black tree is bounded as $O(\lg n)$.
 - * The maximum height of a red-black tree is $2\lg(n+1)$.
- */

```
#define SPLAY_HEAD(name, type) \
struct name { \
    struct type *sph_root; /* root of the tree */ \
}
```

```
#define SPLAY_INITIALIZER(root) \
{ NULL }
```

```
#define SPLAY_INIT(root) do { \
    (root)->sph_root = NULL; \
} while (/*CONSTCOND*/ 0)
```

```
#define SPLAY_ENTRY(type) \
struct { \
    struct type *spe_left; /* left element */ \
    struct type *spe_right; /* right element */ \
}
```

```
#define SPLAY_LEFT(elm, field) (elm)->field.spe_left
#define SPLAY_RIGHT(elm, field) (elm)->field.spe_right
#define SPLAY_ROOT(head) (head)->sph_root
#define SPLAY_EMPTY(head) (SPLAY_ROOT(head) == NULL)
```

```
/* SPLAY_ROTATE_{LEFT,RIGHT} expect that tmp hold SPLAY_{RIGHT,LEFT} */
#define SPLAY_ROTATE_RIGHT(head, tmp, field) do { \
    SPLAY_LEFT((head)->sph_root, field) = SPLAY_RIGHT(tmp, field); \
    SPLAY_RIGHT(tmp, field) = (head)->sph_root; \
    (head)->sph_root = tmp; \
}
```

```

} while (/*CONSTCOND*/ 0)

#define SPLAY_ROTATE_LEFT(head, tmp, field) do { \
    SPLAY_RIGHT((head)->sph_root, \
    field) = SPLAY_LEFT(tmp, field); \
    SPLAY_LEFT(tmp, field) = (head)->sph_root; \
    (head)->sph_root = tmp; \
} while (/*CONSTCOND*/ 0)

#define SPLAY_LINKLEFT(head, tmp, field) do { \
    SPLAY_LEFT(tmp, field) = (head)->sph_root; \
    tmp = (head)->sph_root; \
    (head)->sph_root = SPLAY_LEFT((head)->sph_root, field); \
} while (/*CONSTCOND*/ 0)

#define SPLAY_LINKRIGHT(head, tmp, field) do { \
    SPLAY_RIGHT(tmp, field) = (head)->sph_root; \
    tmp = (head)->sph_root; \
    (head)->sph_root = SPLAY_RIGHT((head)->sph_root, field); \
} while (/*CONSTCOND*/ 0)

#define SPLAY_ASSEMBLE(head, node, left, right, field) do { \
    SPLAY_RIGHT(left, field) = SPLAY_LEFT((head)->sph_root, field); \
    SPLAY_LEFT(right, field) = SPLAY_RIGHT((head)->sph_root, field); \
    SPLAY_LEFT((head)->sph_root, field) = SPLAY_RIGHT(node, field); \
    SPLAY_RIGHT((head)->sph_root, field) = SPLAY_LEFT(node, field); \
} while (/*CONSTCOND*/ 0)

/* Generates prototypes and inline functions */

#define
    SPLAY_PROTOTYPE(name, type, field, cmp) \
void name##_SPLAY(struct name *, struct type *); \
void name##_SPLAY_MINMAX(struct name *, int); \
struct type *name##_SPLAY_INSERT(struct name *, struct type *); \
struct type *name##_SPLAY_REMOVE(struct name *, struct type *); \
\
/* Finds the node with the same key as elm */ \
static __inline struct type * \
name##_SPLAY_FIND(struct name *head, struct type *elm) \
{ \
    if (SPLAY_EMPTY(head)) \
        return(NULL); \
    name##_SPLAY(head, elm); \
    if ((cmp)(elm, (head)->sph_root) == 0) \
        return (head->sph_root); \
    return (NULL); \
} \

```

```

    \
static __inline __sys_tree_h_unused struct type * \
name##_SPLAY_NEXT(struct name *head, struct type *elm) \
{    \
    name##_SPLAY(head, elm);    \
    if (SPLAY_RIGHT(elm, field) != NULL) {    \
        elm = SPLAY_RIGHT(elm, field);    \
        while (SPLAY_LEFT(elm, field) != NULL) {    \
            elm = SPLAY_LEFT(elm, field);    \
        }    \
    }    \
    else    \
        elm = NULL;    \
    return (elm);    \
}    \
\
static __sys_tree_h_unused __inline struct type * \
name##_SPLAY_MIN_MAX(struct name *head, int val) \
{    \
    name##_SPLAY_MINMAX(head, val);    \
    return (SPLAY_ROOT(head));    \
}

/* Main splay operation.
 * Moves node close to the key of elm to top
 */
#define SPLAY_GENERATE(name, type, field, cmp) \
struct type * \
name##_SPLAY_INSERT(struct name *head, struct type *elm) \
{    \
    if (SPLAY_EMPTY(head)) {    \
        SPLAY_LEFT(elm, field) = SPLAY_RIGHT(elm, field) = NULL; \
    } else {    \
        int __comp;    \
        name##_SPLAY(head, elm);    \
        __comp = (cmp)(elm, (head)->sph_root);    \
        if (__comp < 0) {    \
            SPLAY_LEFT(elm, field) = SPLAY_LEFT((head)->sph_root, field); \
            SPLAY_RIGHT(elm, field) = (head)->sph_root;    \
            SPLAY_LEFT((head)->sph_root, field) = NULL;    \
        } else if (__comp > 0) {    \
            SPLAY_RIGHT(elm, \
field) = SPLAY_RIGHT((head)->sph_root, field); \
            SPLAY_LEFT(elm, field) = (head)->sph_root;    \
            SPLAY_RIGHT((head)->sph_root, field) = NULL;    \
        } else    \
            return ((head)->sph_root);    \
    }    \
}

```

```

(head)->sph_root = (elm); \
return (NULL); \
} \
\
struct type * \
name##_SPLAY_REMOVE(struct name *head, struct type *elm) \
{ \
    struct type *__tmp; \
    if (SPLAY_EMPTY(head)) \
        return (NULL); \
    name##_SPLAY(head, elm); \
    if ((cmp)(elm, (head)->sph_root) == 0) { \
        if (SPLAY_LEFT((head)->sph_root, field) == NULL) { \
            (head)->sph_root = SPLAY_RIGHT((head)->sph_root, field);\
        } else { \
            __tmp = SPLAY_RIGHT((head)->sph_root, field);\
            (head)->sph_root = SPLAY_LEFT((head)->sph_root, field);\
            name##_SPLAY(head, elm); \
            SPLAY_RIGHT((head)->sph_root, field) = __tmp; \
        } \
        return (elm); \
    } \
    return (NULL); \
} \
\
void \
name##_SPLAY(struct \
    name *head, struct type *elm) \
{ \
    struct type __node, *__left, *__right, *__tmp; \
    int __comp; \
    \
    SPLAY_LEFT(&__node, field) = SPLAY_RIGHT(&__node, field) = NULL;\
    __left = __right = &__node; \
    \
    while ((__comp = (cmp)(elm, (head)->sph_root)) != 0) { \
        if (__comp < 0) { \
            __tmp = SPLAY_LEFT((head)->sph_root, field);\
            if (__tmp == NULL) \
                break; \
            if ((cmp)(elm, __tmp) < 0){ \
                SPLAY_ROTATE_RIGHT(head, __tmp, field);\
                if (SPLAY_LEFT((head)->sph_root, field) == NULL)\
                    break; \
            } \
            SPLAY_LINKLEFT(head, __right, field); \
        } else if (__comp > 0) { \
            __tmp = SPLAY_RIGHT((head)->sph_root, field);\

```

```

if (__tmp == NULL) \
    break; \
if ((cmp)(elm, __tmp) > 0){ \
    SPLAY_ROTATE_LEFT(head, __tmp, field); \
    if (SPLAY_RIGHT((head)->sph_root, field) == NULL)\
        break; \
} \
SPLAY_LINKRIGHT(head, __left, field); \
} \
} \
SPLAY_ASSEMBLE(head,
&__node, __left, __right, field); \
} \
\
/* Splay with either the minimum or the maximum element \
* Used to find minimum or maximum element in tree. \
*/ \
void name##_SPLAY_MINMAX(struct name *head, int __comp) \
{ \
    struct type __node, *__left, *__right, *__tmp; \
    \
    SPLAY_LEFT(&__node, field) = SPLAY_RIGHT(&__node, field) = NULL;\
    __left = __right = &__node; \
    \
    while (1) { \
        if (__comp < 0) { \
            __tmp = SPLAY_LEFT((head)->sph_root, field); \
            if (__tmp == NULL) \
                break; \
            if (__comp < 0){ \
                SPLAY_ROTATE_RIGHT(head, __tmp, field); \
                if (SPLAY_LEFT((head)->sph_root, field) == NULL)\
                    break; \
            } \
            SPLAY_LINKLEFT(head, __right, field); \
        } else if (__comp > 0) { \
            __tmp = SPLAY_RIGHT((head)->sph_root, field); \
            if (__tmp == NULL) \
                break; \
            if (__comp > 0) { \
                SPLAY_ROTATE_LEFT(head, __tmp, field); \
                if (SPLAY_RIGHT((head)->sph_root,
field) == NULL)\
                    break; \
            } \
            SPLAY_LINKRIGHT(head, __left, field); \
        } \
    } \
} \

```

```

    SPLAY_ASSEMBLE(head, &__node, __left, __right, field); \
}

#define SPLAY_NEGINF -1
#define SPLAY_INF 1

#define SPLAY_INSERT(name, x, y) name##_SPLAY_INSERT(x, y)
#define SPLAY_REMOVE(name, x, y) name##_SPLAY_REMOVE(x, y)
#define SPLAY_FIND(name, x, y) name##_SPLAY_FIND(x, y)
#define SPLAY_NEXT(name, x, y) name##_SPLAY_NEXT(x, y)
#define SPLAY_MIN(name, x) (SPLAY_EMPTY(x) ? NULL \
    : name##_SPLAY_MIN_MAX(x, SPLAY_NEGINF))
#define SPLAY_MAX(name, x) (SPLAY_EMPTY(x) ? NULL \
    : name##_SPLAY_MIN_MAX(x, SPLAY_INF))

#define SPLAY_FOREACH(x, name, head) \
    for ((x) = SPLAY_MIN(name, head); \
        (x) != NULL; \
        (x) = SPLAY_NEXT(name, head, x))

/* Macros that define a red-black tree */
#define RB_HEAD(name, type) \
    struct name { \
        struct type *rbh_root; /* root of the tree */ \
    }

#define RB_INITIALIZER(root) \
    { \
        NULL \
    }

#define RB_INIT(root) do { \
    (root)->rbh_root = NULL; \
} while (/*CONSTCOND*/ 0)

#define RB_BLACK 0
#define RB_RED 1
#define RB_ENTRY(type) \
    struct { \
        struct type *rbe_left; /* left element */ \
        struct type *rbe_right; /* right element */ \
        struct type *rbe_parent; /* parent element */ \
        int rbe_color; /* node color */ \
    }

#define RB_LEFT(elm, field) (elm)->field.rbe_left
#define RB_RIGHT(elm, field) (elm)->field.rbe_right
#define RB_PARENT(elm, field) (elm)->field.rbe_parent
#define RB_COLOR(elm, field) (elm)->field.rbe_color

```

```

#define RB_ROOT(head) (head)->rbh_root
#define RB_EMPTY(head) (RB_ROOT(head) == NULL)

#define RB_SET(elm, parent, field) do { \
    RB_PARENT(elm, field) = parent; \
    RB_LEFT(elm, field) = RB_RIGHT(elm, field) = NULL; \
    RB_COLOR(elm, field) = RB_RED; \
} while (/*CONSTCOND*/ 0)

#define RB_SET_BLACKRED(black, red, field) do { \
    RB_COLOR(black, field) = RB_BLACK; \
    RB_COLOR(red, field) \
    = RB_RED; \
} while (/*CONSTCOND*/ 0)

#ifndef RB_AUGMENT
#define RB_AUGMENT(x) do {} while (/*CONSTCOND*/ 0)
#endif

#define RB_ROTATE_LEFT(head, elm, tmp, field) do { \
    (tmp) = RB_RIGHT(elm, field); \
    if ((RB_RIGHT(elm, field) = RB_LEFT(tmp, field)) != NULL) { \
        RB_PARENT(RB_LEFT(tmp, field), field) = (elm); \
    } \
    RB_AUGMENT(elm); \
    if ((RB_PARENT(tmp, field) = RB_PARENT(elm, field)) != NULL) { \
        if ((elm) == RB_LEFT(RB_PARENT(elm, field), field)) \
            RB_LEFT(RB_PARENT(elm, field), field) = (tmp); \
        else \
            RB_RIGHT(RB_PARENT(elm, field), field) = (tmp); \
    } else \
        (head)->rbh_root = (tmp); \
    RB_LEFT(tmp, field) = (elm); \
    RB_PARENT(elm, field) = (tmp); \
    RB_AUGMENT(tmp); \
    if ((RB_PARENT(tmp, field))) \
        RB_AUGMENT(RB_PARENT(tmp, field)); \
} while (/*CONSTCOND*/ 0)

#define RB_ROTATE_RIGHT(head, elm, tmp, field) do { \
    (tmp) = RB_LEFT(elm, field); \
    if ((RB_LEFT(elm, field) = RB_RIGHT(tmp, field)) \
    != NULL) { \
        RB_PARENT(RB_RIGHT(tmp, field), field) = (elm); \
    } \
    RB_AUGMENT(elm); \
    if ((RB_PARENT(tmp, field) = RB_PARENT(elm, field)) != NULL) { \
        if ((elm) == RB_LEFT(RB_PARENT(elm, field), field)) \

```



```

    RB_LEFT(RB_PARENT(elm, field), field) = (tmp); \
else \
    RB_RIGHT(RB_PARENT(elm, field), field) = (tmp); \
} else \
(head)->rbh_root = (tmp); \
RB_RIGHT(tmp, field) = (elm); \
RB_PARENT(elm, field) = (tmp); \
RB_AUGMENT(tmp); \
if ((RB_PARENT(tmp, field))) \
    RB_AUGMENT(RB_PARENT(tmp, field)); \
} while (/*CONSTCOND*/ 0)

/* Generates prototypes and inline functions */
#define RB_PROTOTYPE(name, type, field, cmp) \
    RB_PROTOTYPE_INTERNAL(name, type, field, cmp,)
#define RB_PROTOTYPE_STATIC(name, type, field, cmp) \
    RB_PROTOTYPE_INTERNAL(name, type, field, cmp, _sys_tree_h_unused static)
#define RB_PROTOTYPE_INTERNAL(name, type, field, cmp, attr) \
    attr void name##_RB_INSERT_COLOR(struct name *, struct \
    type *); \
    attr void name##_RB_REMOVE_COLOR(struct name *, struct type *, struct type *); \
    attr struct type *name##_RB_REMOVE(struct name *, struct type *); \
    attr struct type *name##_RB_INSERT(struct name *, struct type *); \
    attr struct type *name##_RB_FIND(struct name *, struct type *); \
    attr struct type *name##_RB_NFIND(struct name *, struct type *); \
    attr struct type *name##_RB_NEXT(struct type *); \
    attr struct type *name##_RB_PREV(struct type *); \
    attr struct type *name##_RB_MINMAX(struct name *, int); \
    \

/* Main rb operation.
 * Moves node close to the key of elm to top
 */
#define RB_GENERATE(name, type, field, cmp) \
    RB_GENERATE_INTERNAL(name, type, field, cmp,)
#define RB_GENERATE_STATIC(name, type, field, cmp) \
    RB_GENERATE_INTERNAL(name, type, field, cmp, _sys_tree_h_unused static)
#define RB_GENERATE_INTERNAL(name, type, field, cmp, attr) \
    attr void \
    name##_RB_INSERT_COLOR(struct name *head, struct type *elm) \
    { \
        \
        struct type \
        *parent, *gparent, *tmp; \
        while ((parent = RB_PARENT(elm, field)) != NULL && \
            RB_COLOR(parent, field) == RB_RED) { \
            gparent = RB_PARENT(parent, field); \
            if (parent == RB_LEFT(gparent, field)) { \
                tmp = RB_RIGHT(gparent, field); \

```

```

if (tmp && RB_COLOR(tmp, field) == RB_RED) { \
    RB_COLOR(tmp, field) = RB_BLACK; \
    RB_SET_BLACKRED(parent, gparent, field);\
    elm = gparent; \
    continue; \
} \
if (RB_RIGHT(parent, field) == elm) { \
    RB_ROTATE_LEFT(head, parent, tmp, field);\
    tmp = parent; \
    parent = elm; \
    elm = tmp; \
} \
RB_SET_BLACKRED(parent, gparent, field); \
RB_ROTATE_RIGHT(head, gparent, tmp, field); \
} else { \
    tmp = RB_LEFT(gparent, field); \
    if (tmp && RB_COLOR(tmp, field) == RB_RED) { \
        RB_COLOR(tmp, field) = RB_BLACK; \
        RB_SET_BLACKRED(parent, gparent, field);\
        elm = gparent; \
        continue; \
    } \
    if (RB_LEFT(parent, field) == elm)
{ \
    RB_ROTATE_RIGHT(head, parent, tmp, field);\
    tmp = parent; \
    parent = elm; \
    elm = tmp; \
} \
    RB_SET_BLACKRED(parent, gparent, field); \
    RB_ROTATE_LEFT(head, gparent, tmp, field); \
} \
} \
RB_COLOR(head->rbh_root, field) = RB_BLACK; \
} \
\
attr void \
name##_RB_REMOVE_COLOR(struct name *head, struct type *parent, struct type *elm) \
{ \
    struct type *tmp; \
    while ((elm == NULL || RB_COLOR(elm, field) == RB_BLACK) && \
        elm != RB_ROOT(head)) { \
        if (RB_LEFT(parent, field) == elm) { \
            tmp = RB_RIGHT(parent, field); \
            if (RB_COLOR(tmp, field) == RB_RED) { \
                RB_SET_BLACKRED(tmp, parent, field); \
                RB_ROTATE_LEFT(head, parent, tmp, field);\
                tmp = RB_RIGHT(parent, field); \

```

```

} \
if ((RB_LEFT(tmp, field) == NULL || \
    RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) &&\
    (RB_RIGHT(tmp, field) == NULL || \
    RB_COLOR(RB_RIGHT(tmp,
field), field) == RB_BLACK)) {\
    RB_COLOR(tmp, field) = RB_RED; \
    elm = parent; \
    parent = RB_PARENT(elm, field); \
} else { \
    if (RB_RIGHT(tmp, field) == NULL || \
        RB_COLOR(RB_RIGHT(tmp, field), field) == RB_BLACK) {\
        struct type *oleft; \
        if ((oleft = RB_LEFT(tmp, field)) \
            != NULL) \
            RB_COLOR(oleft, field) = RB_BLACK;\
        RB_COLOR(tmp, field) = RB_RED; \
        RB_ROTATE_RIGHT(head, tmp, oleft, field);\
        tmp = RB_RIGHT(parent, field); \
    } \
    RB_COLOR(tmp, field) = RB_COLOR(parent, field);\
    RB_COLOR(parent, field) = RB_BLACK; \
    if (RB_RIGHT(tmp, field)) \
        RB_COLOR(RB_RIGHT(tmp, field), field) = RB_BLACK;\
    RB_ROTATE_LEFT(head, parent, tmp, field);\
    elm = RB_ROOT(head); \
    break; \
} \
} else { \
    tmp = RB_LEFT(parent, field); \
    if (RB_COLOR(tmp, field) == RB_RED) { \
        RB_SET_BLACKRED(tmp, parent, field); \
        RB_ROTATE_RIGHT(head, parent, tmp, field);\
        tmp
= RB_LEFT(parent, field); \
    } \
    if ((RB_LEFT(tmp, field) == NULL || \
        RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) &&\
        (RB_RIGHT(tmp, field) == NULL || \
        RB_COLOR(RB_RIGHT(tmp, field), field) == RB_BLACK)) {\
        RB_COLOR(tmp, field) = RB_RED; \
        elm = parent; \
        parent = RB_PARENT(elm, field); \
    } else { \
        if (RB_LEFT(tmp, field) == NULL || \
            RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) {\
            struct type *oright; \
            if ((oright = RB_RIGHT(tmp, field)) \

```

```

    != NULL) \
    RB_COLOR(orient, field) = RB_BLACK;\
    RB_COLOR(tmp, field) = RB_RED;\
    RB_ROTATE_LEFT(head, tmp, orient, field);\
    tmp = RB_LEFT(parent, field);\
} \
RB_COLOR(tmp, field) = RB_COLOR(parent, field);\
RB_COLOR(parent, field) = RB_BLACK;\
if (RB_LEFT(tmp, field)) \
    RB_COLOR(RB_LEFT(tmp, field), field) = RB_BLACK;\
RB_ROTATE_RIGHT(head, parent, tmp, field);\
elm = RB_ROOT(head); \
break; \
} \
} \
} \
if
(elm) \
    RB_COLOR(elm, field) = RB_BLACK; \
} \
\
attr struct type * \
name##_RB_REMOVE(struct name *head, struct type *elm) \
{ \
    struct type *child, *parent, *old = elm; \
    int color; \
    if (RB_LEFT(elm, field) == NULL) \
        child = RB_RIGHT(elm, field); \
    else if (RB_RIGHT(elm, field) == NULL) \
        child = RB_LEFT(elm, field); \
    else { \
        struct type *left; \
        elm = RB_RIGHT(elm, field); \
        while ((left = RB_LEFT(elm, field)) != NULL) \
            elm = left; \
        child = RB_RIGHT(elm, field); \
        parent = RB_PARENT(elm, field); \
        color = RB_COLOR(elm, field); \
        if (child) \
            RB_PARENT(child, field) = parent; \
        if (parent) { \
            if (RB_LEFT(parent, field) == elm) \
                RB_LEFT(parent, field) = child; \
            else \
                RB_RIGHT(parent, field) = child; \
            RB_AUGMENT(parent); \
        } else \
            RB_ROOT(head)

```

```

= child; \
if (RB_PARENT(elm, field) == old) \
    parent = elm; \
(elm)->field = (old)->field; \
if (RB_PARENT(old, field)) { \
    if (RB_LEFT(RB_PARENT(old, field), field) == old)\
        RB_LEFT(RB_PARENT(old, field), field) = elm;\
    else \
        RB_RIGHT(RB_PARENT(old, field), field) = elm;\
    RB_AUGMENT(RB_PARENT(old, field)); \
} else \
    RB_ROOT(head) = elm; \
RB_PARENT(RB_LEFT(old, field), field) = elm; \
if (RB_RIGHT(old, field)) \
    RB_PARENT(RB_RIGHT(old, field), field) = elm; \
if (parent) { \
    left = parent; \
    do { \
        RB_AUGMENT(left); \
    } while ((left = RB_PARENT(left, field)) != NULL); \
} \
goto color; \
} \
parent = RB_PARENT(elm, field); \
color = RB_COLOR(elm, field); \
if (child) \
    RB_PARENT(child, field) = parent; \
if (parent) { \
    if (RB_LEFT(parent, field) == elm) \
        RB_LEFT(parent, field) = child; \
    else \
        RB_RIGHT(parent,
field) = child; \
    RB_AUGMENT(parent); \
} else \
    RB_ROOT(head) = child; \
color: \
if (color == RB_BLACK) \
    name##_RB_REMOVE_COLOR(head, parent, child); \
return (old); \
} \
\
/* Inserts a node into the RB tree */ \
attr struct type * \
name##_RB_INSERT(struct name *head, struct type *elm) \
{ \
    struct type *tmp; \
    struct type *parent = NULL; \

```

```

int comp = 0;    \
tmp = RB_ROOT(head);    \
while (tmp) {    \
    parent = tmp;    \
    comp = (cmp)(elm, parent);    \
    if (comp < 0)    \
        tmp = RB_LEFT(tmp, field);    \
    else if (comp > 0)    \
        tmp = RB_RIGHT(tmp, field);    \
    else    \
        return (tmp);    \
}    \
RB_SET(elm, parent, field);    \
if (parent != NULL) {    \
    if (comp < 0)    \
        RB_LEFT(parent, field) = elm;    \
    else    \
        RB_RIGHT(parent, field) = elm;    \
    RB_AUGMENT(parent);    \
} else    \
    RB_ROOT(head) = elm;    \
name##_RB_INSERT_COLOR(head,
elm);    \
return (NULL);    \
}    \
\

/* Finds the node with the same key as elm */    \
attr struct type *    \
name##_RB_FIND(struct name *head, struct type *elm)    \
{    \
    struct type *tmp = RB_ROOT(head);    \
    int comp;    \
    while (tmp) {    \
        comp = cmp(elm, tmp);    \
        if (comp < 0)    \
            tmp = RB_LEFT(tmp, field);    \
        else if (comp > 0)    \
            tmp = RB_RIGHT(tmp, field);    \
        else    \
            return (tmp);    \
    }    \
    return (NULL);    \
}    \
\

/* Finds the first node greater than or equal to the search key */    \
attr struct type *    \
name##_RB_NFIND(struct name *head, struct type *elm)    \
{    \

```

```

struct type *tmp = RB_ROOT(head); \
struct type *res = NULL; \
int comp; \
while (tmp) { \
    comp = cmp(elm, tmp); \
    if (comp < 0) { \
        res = tmp; \
        tmp = RB_LEFT(tmp, field); \
    } \
    else if (comp > 0) \
        tmp = \
RB_RIGHT(tmp, field); \
    else \
        return (tmp); \
} \
return (res); \
} \
\
/* ARGSUSED */ \
attr struct type * \
name##_RB_NEXT(struct type *elm) \
{ \
    if (RB_RIGHT(elm, field)) { \
        elm = RB_RIGHT(elm, field); \
        while (RB_LEFT(elm, field)) \
            elm = RB_LEFT(elm, field); \
    } else { \
        if (RB_PARENT(elm, field) && \
            (elm == RB_LEFT(RB_PARENT(elm, field), field))) \
            elm = RB_PARENT(elm, field); \
        else { \
            while (RB_PARENT(elm, field) && \
                (elm == RB_RIGHT(RB_PARENT(elm, field), field))) \
                elm = RB_PARENT(elm, field); \
            elm = RB_PARENT(elm, field); \
        } \
    } \
    return (elm); \
} \
\
/* ARGSUSED */ \
attr struct type * \
name##_RB_PREV(struct type *elm) \
{ \
    if (RB_LEFT(elm, field)) { \
        elm = RB_LEFT(elm, field); \
        while (RB_RIGHT(elm, field)) \
            elm = RB_RIGHT(elm, field); \
    } \
}

```

```

}
else {
    if (RB_PARENT(elm, field) &&
        (elm == RB_RIGHT(RB_PARENT(elm, field), field))) \
        elm = RB_PARENT(elm, field); \
    else {
        while (RB_PARENT(elm, field) &&
            (elm == RB_LEFT(RB_PARENT(elm, field), field))) \
            elm = RB_PARENT(elm, field); \
        elm = RB_PARENT(elm, field); \
    } \
} \
return (elm); \
} \
\

attr struct type * \
name##_RB_MINMAX(struct name *head, int val) \
{
    struct type *tmp = RB_ROOT(head); \
    struct type *parent = NULL; \
    while (tmp) {
        parent = tmp; \
        if (val < 0) \
            tmp = RB_LEFT(tmp, field); \
        else \
            tmp = RB_RIGHT(tmp, field); \
    } \
    return (parent); \
}

#define RB_NEGINF -1
#define RB_INF 1

#define RB_INSERT(name, x, y) name##_RB_INSERT(x, y)
#define RB_REMOVE(name, x, y) name##_RB_REMOVE(x, y)
#define RB_FIND(name, x, y) name##_RB_FIND(x, y)
#define RB_NFIND(name, x, y) name##_RB_NFIND(x, \
y)
#define RB_NEXT(name, x, y) name##_RB_NEXT(y)
#define RB_PREV(name, x, y) name##_RB_PREV(y)
#define RB_MIN(name, x) name##_RB_MINMAX(x, RB_NEGINF)
#define RB_MAX(name, x) name##_RB_MINMAX(x, RB_INF)

#define RB_FOREACH(x, name, head) \
for ((x) = RB_MIN(name, head); \
    (x) != NULL; \
    (x) = name##_RB_NEXT(x))

```



```

#define RB_FOREACH_FROM(x, name, y) \
for ((x) = (y); \
    ((x) != NULL) && ((y) = name##_RB_NEXT(x), (x) != NULL); \
    (x) = (y))

#define RB_FOREACH_SAFE(x, name, head, y) \
for ((x) = RB_MIN(name, head); \
    ((x) != NULL) && ((y) = name##_RB_NEXT(x), (x) != NULL); \
    (x) = (y))

#define RB_FOREACH_REVERSE(x, name, head) \
for ((x) = RB_MAX(name, head); \
    (x) != NULL; \
    (x) = name##_RB_PREV(x))

#define RB_FOREACH_REVERSE_FROM(x, name, y) \
for ((x) = (y); \
    ((x) != NULL) && ((y) = name##_RB_PREV(x), (x) != NULL); \
    (x) = (y))

#define RB_FOREACH_REVERSE_SAFE(x, name, \
head, y) \
for ((x) = RB_MAX(name, head); \
    ((x) != NULL) && ((y) = name##_RB_PREV(x), (x) != NULL); \
    (x) = (y))

#endif /* _SYS_TREE_H_ */
pkgname=linux-headers
pkgver=6.14.2 # Follow the latest Linux stable
_kernver=${pkgver%.*}
pkgrel=0
pkgdesc="Linux system headers"
url="https://kernel.org/"
arch="all" # Headers are architecture specific
license="GPL-2.0-only"
makedepends="perl"
options="!check !dbg !strip !tracedeps !archcheck"
source="https://kernel.org/pub/linux/kernel/v6.x/linux-${_kernver}.tar.xz
revert-broken-uapi.patch
0003-remove-inclusion-of-sysinfo.h-in-kernel.h.patch

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1.28 klauspost-compress 1.18.0

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Julian Seward, Cambridge, UK.

jseward@bzip.org

bzip2/libbzip2 version 1.0.4 of 20 December 2006

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1.32 x-sys 0.36.0

1.32.1 Available under license :

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1.33 ncurses 6.5_p20250503-r0

1.33.1 Available under license :

```
# Contributor: Patrycja Rosa <alpine@ptrcnull.me>
# Maintainer: Patrycja Rosa <alpine@ptrcnull.me>
pkgname=bsd-compat-headers
pkgver=0.7.2
pkgrel=6
pkgdesc="BSD compatibility headers (cdefs, queue, tree)"
url="https://gitlab.alpinelinux.org/alpine/aports"
arch="noarch"
license="BSD-2-Clause AND BSD-3-Clause"
source=""
cdefs.h
queue.h
tree.h
"

builddir="$srcdir"
options="!check" # just headers

package() {
    mkdir -p "$pkgdir"
    install -Dm644 -t "$pkgdir"/usr/include/sys \
        cdefs.h queue.h tree.h
}
sha512sums="
37c8fc73c7aea7b490f7850927e2bb91d12137c9e59e22c084146d515696dbc7973b5de92f4c987ba080dd2502ba8312
7006442c3f019b6447a620c0cae73178 cdefs.h
2f0d5e6e4dc3350285cf17009265dddcbe12431c111868eea39bc8cb038ab7c1f2acacbb21735c4e9d4a1fd106a8fc0f86
11ea33987d4faba37dde5ce6da0750 queue.h
d9ac210d81feb8ad2655bc80fb065d3fe20ae4417b32b4a1711e6738a4870140005c13373b5d1846ef3ce5ae6da45f2da
cef2092881eded0a2e94f6a07752ef3 tree.h
"

# Automatically generated by apkbuild-cpan, template 4
# Contributor: Valery Kartel <valery.kartel@gmail.com>
# Maintainer: Celeste <cielesti@protonmail.com>
maintainer="Celeste <cielesti@protonmail.com>"
pkgname=perl-bsd-resource
pkgver=1.2911
pkgrel=10
#_pkgreal is used by apkbuild-cpan to find modules at MetaCpan
_pkgreal=BSD-Resource
pkgdesc="Perl extension implements the BSD process resource limit functions"
url="https://metacpan.org/release/BSD-Resource/"
arch="all"
license="Artistic-2.0 OR LGPL-2.0"
depends="perl"
makedepends="perl-dev"
subpackages="$pkgname-doc"
source="https://cpan.metacpan.org/authors/id/J/JH/JHI/BSD-Resource-$pkgver.tar.gz"
```

```

builddir="$srcdir/${_pkgreal-$pkgver}"

build() {
    export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
    PERL_MM_USE_DEFAULT=1 perl -I. Makefile.PL \
        INSTALLDIRS=vendor \
        NO_PACKLIST=1 \
        NO_PERLLOCAL=1
    make
}

check() {
    export CFLAGS=$(perl -MConfig -E 'say $Config{ccflags}')
    make test
}

package() {
    make DESTDIR="$pkgdir" install
}

sha512sums="
d0032d41c7c0468ed1c6d8f57b885f6cb97a5039d754c8cb60b2067daedaf53bd15fb6561a3d0f828df16dfa5417f663b
8065ba65f4fea16dc9262728b3b6b85
    BSD-Resource-1.2911.tar.gz
"

# Contributor: Fabian Affolter <fabian@affolter-engineering.ch>
# Maintainer: Fabian Affolter <fabian@affolter-engineering.ch>
pkgname=py3-flake8-copyright
_pkgname=flake8-copyright
pkgver=0.2.4
pkgrel=3
pkgdesc="Extension for flake8 which checks for copyrights"
options="!check" # No testsuite
url="https://github.com/savoirfairelinux/flake8-copyright"
arch="noarch"
license="MIT"
depends="py3-flake8 py3-setuptools"
makedepends="py3-gpep517 py3-wheel"
subpackages="$pkgname-pyc"
source="https://files.pythonhosted.org/packages/source/${_pkgname:0:1}/${_pkgname}/${_pkgname}-${pkgver}.tar.gz"
builddir="$srcdir"/${_pkgname}-${pkgver}

replaces="py-flake8-copyright" # Backwards compatibility
provides="py-flake8-copyright=${pkgver}-r${pkgrel}" # Backwards compatibility

build() {
    gpep517 build-wheel \
        --wheel-dir .dist \

```

```

--output-fd 3 3>&1 >&2
}

package() {
gpep517 install-wheel --destdir "$pkgdir" \
.dist/*.whl
}

sha512sums="
a6ab47e1bb715618f075c51f398e18180404871b3b0faf1c2d30701d5203db6bc23771bf22ffb5bafcd8ee856b9b64237
b316bd503ae7dceed6ca284ccd5a74d
flake8-copyright-0.2.4.tar.gz
"

#ifndef _SYS_CDEFS_H_
#define _SYS_CDEFS_H_

#warning usage of non-standard #include <sys/cdefs.h> is deprecated

#undef __P
#undef __PMT

#define __P(args) args
#define __PMT(args) args

#define __CONCAT(x,y) x ## y
#define __STRING(x) #x

#ifdef __cplusplus
# define __BEGIN_DECLS extern "C" {
# define __END_DECLS }
#else
# define __BEGIN_DECLS
# define __END_DECLS
#endif

#if defined(__GNUC__) && !defined(__cplusplus)
# define __THROW __attribute__((__nothrow__))
# define __NTH(fct) __attribute__((__nothrow__)) fct
#else
# define __THROW
# define __NTH(fct) fct
#endif

#endif /* _SYS_CDEFS_H_ */
# Maintainer: fossdd <fossdd@pwned.life>
pkgname=cargo-license
pkgver=0.6.1
pkgrel=1

```

```

pkgdesc="Cargo subcommand to see license of dependencies"
url="https://github.com/onur/cargo-license"
arch="all"
license="MIT"
makedepends="cargo cargo-auditable"
source="$pkgname-$pkgver.tar.gz::https://crates.io/api/v1/crates/cargo-license/$pkgver/download"

prepare() {
    default_prepare

    cargo fetch --target="$CTARGET" --locked
}

build() {
    cargo auditable build --release --frozen
}

check() {
    cargo test --frozen
}

package() {
    install -Dm755 target/release/cargo-license -t "$pkgdir"/usr/bin
}

sha512sums="
36215145e79965be090ae2f5ce6f5eb208465eb67a94c26bed1fe70a131c46c6dc35695e30852759b7366883fbc3caf00
272d796ac634f0a5e1d49232b6b29d5  cargo-license-0.6.1.tar.gz
"

/* $NetBSD: tree.h,v 1.20 2013/09/14 13:20:45 joerg Exp $ */
/* $OpenBSD: tree.h,v 1.13 2011/07/09 00:19:45 pirofti Exp $ */
/* Modified by Void Linux. */
/*
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```



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```

```

*/

```

```

#ifndef _SYS_TREE_H_

```

```

#define _SYS_TREE_H_

```

```

#ifdef __GNUC__

```

```

#define __GNUC_PREREQ__(x, y) \
((__GNUC__ == (x) && __GNUC_MINOR__ >= (y)) || \
 (__GNUC__ > (x)))

```

```

#else

```

```

#define __GNUC_PREREQ__(x, y) 0

```

```

#endif

```

```

#if __GNUC_PREREQ__(2, 7) || defined(__lint__)

```

```

#define _sys_tree_h_unused __attribute__((__unused__))

```

```

#else

```

```

#define _sys_tree_h_unused /* delete */

```

```

#endif

```

```

/*

```

```

* This file defines data structures for different types of trees:

```

```

* splay trees and red-black trees.

```

```

*

```

```

* A splay tree is a self-organizing

```

```

data structure. Every operation

```

```

* on the tree causes a splay to happen. The splay moves the requested

```

```

* node to the root of the tree and partly rebalances it.

```

```

*

```

```

* This has the benefit that request locality causes faster lookups as

```

```

* the requested nodes move to the top of the tree. On the other hand,

```

```

* every lookup causes memory writes.

```

```

*

```

```

* The Balance Theorem bounds the total access time for m operations

```

```

* and n inserts on an initially empty tree as  $O((m + n) \lg n)$ . The

```

```

* amortized cost for a sequence of m accesses to a splay tree is  $O(\lg n)$ ;

```

```

*

```

```

* A red-black tree is a binary search tree with the node color as an

```

```

* extra attribute. It fulfills a set of conditions:

```

```

* - every search path from the root to a leaf consists of the

```

```

* same number of black nodes,

```

- * - each red node (except for the root) has a black parent,
- * - each leaf node is black.
- *
- * Every operation on a red-black tree is bounded as $O(\lg n)$.
- * The maximum height of a red-black tree is $2\lg(n+1)$.
- */

```
#define SPLAY_HEAD(name, type) \
struct name { \
    struct type *sph_root; /* root of the tree */ \
}
```

```
#define SPLAY_INITIALIZER(root) \
{ NULL }
```

```
#define SPLAY_INIT(root) do { \
    (root)->sph_root = NULL; \
} while (/*CONSTCOND*/ 0)
```

```
#define SPLAY_ENTRY(type) \
struct { \
    struct type *spe_left; /* left element */ \
    struct type *spe_right; /* right element */ \
}
```

```
#define SPLAY_LEFT(elm, field) (elm)->field.spe_left
#define SPLAY_RIGHT(elm, field) (elm)->field.spe_right
#define SPLAY_ROOT(head) (head)->sph_root
#define SPLAY_EMPTY(head) (SPLAY_ROOT(head) == NULL)
```

```
/* SPLAY_ROTATE_{LEFT,RIGHT} expect that tmp hold SPLAY_{RIGHT,LEFT} */
#define SPLAY_ROTATE_RIGHT(head, tmp, field) do { \
    SPLAY_LEFT((head)->sph_root, field) = SPLAY_RIGHT(tmp, field); \
    SPLAY_RIGHT(tmp, field) = (head)->sph_root; \
    (head)->sph_root = tmp; \
} while (/*CONSTCOND*/ 0)
```

```
#define SPLAY_ROTATE_LEFT(head, tmp, field) do { \
    SPLAY_RIGHT((head)->sph_root, \
    field) = SPLAY_LEFT(tmp, field); \
    SPLAY_LEFT(tmp, field) = (head)->sph_root; \
    (head)->sph_root = tmp; \
} while (/*CONSTCOND*/ 0)
```

```
#define SPLAY_LINKLEFT(head, tmp, field) do { \
    SPLAY_LEFT(tmp, field) = (head)->sph_root; \
    tmp = (head)->sph_root; \
    (head)->sph_root = SPLAY_LEFT((head)->sph_root, field); \
}
```

```

} while (/*CONSTCOND*/ 0)

#define SPLAY_LINKRIGHT(head, tmp, field) do { \
    SPLAY_RIGHT(tmp, field) = (head)->sph_root; \
    tmp = (head)->sph_root; \
    (head)->sph_root = SPLAY_RIGHT((head)->sph_root, field); \
} while (/*CONSTCOND*/ 0)

#define SPLAY_ASSEMBLE(head, node, left, right, field) do { \
    SPLAY_RIGHT(left, field) = SPLAY_LEFT((head)->sph_root, field); \
    SPLAY_LEFT(right, field) = SPLAY_RIGHT((head)->sph_root, field); \
    SPLAY_LEFT((head)->sph_root, field) = SPLAY_RIGHT(node, field); \
    SPLAY_RIGHT((head)->sph_root, field) = SPLAY_LEFT(node, field); \
} while (/*CONSTCOND*/ 0)

/* Generates prototypes and inline functions */

#define
SPLAY_PROTOTYPE(name, type, field, cmp) \
void name##_SPLAY(struct name *, struct type *); \
void name##_SPLAY_MINMAX(struct name *, int); \
struct type *name##_SPLAY_INSERT(struct name *, struct type *); \
struct type *name##_SPLAY_REMOVE(struct name *, struct type *); \
\
/* Finds the node with the same key as elm */ \
static __inline struct type * \
name##_SPLAY_FIND(struct name *head, struct type *elm) \
{ \
    if (SPLAY_EMPTY(head)) \
        return(NULL); \
    name##_SPLAY(head, elm); \
    if ((cmp)(elm, (head)->sph_root) == 0) \
        return (head->sph_root); \
    return (NULL); \
} \
\
static __inline _sys_tree_h_unused struct type * \
name##_SPLAY_NEXT(struct name *head, struct type *elm) \
{ \
    name##_SPLAY(head, elm); \
    if (SPLAY_RIGHT(elm, field) != NULL) { \
        elm = SPLAY_RIGHT(elm, field); \
        while (SPLAY_LEFT(elm, field) != NULL) { \
            elm = SPLAY_LEFT(elm, field); \
        } \
    } \
    else \
        elm = NULL; \
}

```

```

return (elm);    \
}                \
                \
static __sys_tree_h_unused __inline struct type * \
name##_SPLAY_MIN_MAX(struct name *head, int val) \
{                \
    name##_SPLAY_MINMAX(head, val);    \
    return (SPLAY_ROOT(head));    \
}

/* Main splay operation.
 * Moves node close to the key of elm to top
 */
#define SPLAY_GENERATE(name, type, field, cmp) \
struct type * \
name##_SPLAY_INSERT(struct name *head, struct type *elm) \
{ \
    if (SPLAY_EMPTY(head)) { \
        SPLAY_LEFT(elm, field) = SPLAY_RIGHT(elm, field) = NULL; \
    } else { \
        int __comp; \
        name##_SPLAY(head, elm); \
        __comp = (cmp)(elm, (head)->sph_root); \
        if (__comp < 0) { \
            SPLAY_LEFT(elm, field) = SPLAY_LEFT((head)->sph_root, field); \
            SPLAY_RIGHT(elm, field) = (head)->sph_root; \
            SPLAY_LEFT((head)->sph_root, field) = NULL; \
        } else if (__comp > 0) { \
            SPLAY_RIGHT(elm, \
field) = SPLAY_RIGHT((head)->sph_root, field); \
            SPLAY_LEFT(elm, field) = (head)->sph_root; \
            SPLAY_RIGHT((head)->sph_root, field) = NULL; \
        } else \
            return ((head)->sph_root); \
    } \
    (head)->sph_root = (elm); \
    return (NULL); \
} \
\
struct type * \
name##_SPLAY_REMOVE(struct name *head, struct type *elm) \
{ \
    struct type *__tmp; \
    if (SPLAY_EMPTY(head)) \
        return (NULL); \
    name##_SPLAY(head, elm); \
    if ((cmp)(elm, (head)->sph_root) == 0) { \
        if (SPLAY_LEFT((head)->sph_root, field) == NULL) { \

```

```

(head)->sph_root = SPLAY_RIGHT((head)->sph_root, field);\
} else { \
__tmp = SPLAY_RIGHT((head)->sph_root, field);\
(head)->sph_root = SPLAY_LEFT((head)->sph_root, field);\
name##_SPLAY(head, elm); \
SPLAY_RIGHT((head)->sph_root, field) = __tmp;\
} \
return (elm); \
} \
return (NULL); \
} \
\
void \
name##_SPLAY(struct
name *head, struct type *elm) \
{ \
struct type __node, *__left, *__right, *__tmp; \
int __comp; \
\
SPLAY_LEFT(&__node, field) = SPLAY_RIGHT(&__node, field) = NULL;\
__left = __right = &__node; \
\
while ((__comp = (cmp)(elm, (head)->sph_root)) != 0) { \
if (__comp < 0) { \
__tmp = SPLAY_LEFT((head)->sph_root, field);\
if (__tmp == NULL) \
break; \
if ((cmp)(elm, __tmp) < 0){ \
SPLAY_ROTATE_RIGHT(head, __tmp, field);\
if (SPLAY_LEFT((head)->sph_root, field) == NULL)\
break; \
} \
SPLAY_LINKLEFT(head, __right, field); \
} else if (__comp > 0) { \
__tmp = SPLAY_RIGHT((head)->sph_root, field);\
if (__tmp == NULL) \
break; \
if ((cmp)(elm, __tmp) > 0){ \
SPLAY_ROTATE_LEFT(head, __tmp, field);\
if (SPLAY_RIGHT((head)->sph_root, field) == NULL)\
break; \
} \
SPLAY_LINKRIGHT(head, __left, field); \
} \
} \
SPLAY_ASSEMBLE(head,
&__node, __left, __right, field); \
} \

```

```

\
/* Splay with either the minimum or the maximum element \
* Used to find minimum or maximum element in tree. \
*/ \
void name##_SPLAY_MINMAX(struct name *head, int __comp) \
{ \
    struct type __node, *__left, *__right, *__tmp; \
\
    SPLAY_LEFT(&__node, field) = SPLAY_RIGHT(&__node, field) = NULL;\
    __left = __right = &__node; \
\
    while (1) { \
        if (__comp < 0) { \
            __tmp = SPLAY_LEFT((head)->sph_root, field);\
            if (__tmp == NULL) \
                break; \
            if (__comp < 0){ \
                SPLAY_ROTATE_RIGHT(head, __tmp, field);\
                if (SPLAY_LEFT((head)->sph_root, field) == NULL)\
                    break; \
            } \
            SPLAY_LINKLEFT(head, __right, field); \
        } else if (__comp > 0) { \
            __tmp = SPLAY_RIGHT((head)->sph_root, field);\
            if (__tmp == NULL) \
                break; \
            if (__comp > 0) { \
                SPLAY_ROTATE_LEFT(head, __tmp, field);\
                if (SPLAY_RIGHT((head)->sph_root, \
field) == NULL)\
                    break; \
            } \
            SPLAY_LINKRIGHT(head, __left, field); \
        } \
    } \
    SPLAY_ASSEMBLE(head, &__node, __left, __right, field); \
}

```

```

#define SPLAY_NEGINF -1

```

```

#define SPLAY_INF 1

```

```

#define SPLAY_INSERT(name, x, y) name##_SPLAY_INSERT(x, y)
#define SPLAY_REMOVE(name, x, y) name##_SPLAY_REMOVE(x, y)
#define SPLAY_FIND(name, x, y) name##_SPLAY_FIND(x, y)
#define SPLAY_NEXT(name, x, y) name##_SPLAY_NEXT(x, y)
#define SPLAY_MIN(name, x) (SPLAY_EMPTY(x) ? NULL \
    : name##_SPLAY_MIN_MAX(x, SPLAY_NEGINF))
#define SPLAY_MAX(name, x) (SPLAY_EMPTY(x) ? NULL \

```

```

: name##_SPLAY_MIN_MAX(x, SPLAY_INF))

#define SPLAY_FOREACH(x, name, head) \
for ((x) = SPLAY_MIN(name, head); \
(x) != NULL; \
(x) = SPLAY_NEXT(name, head, x))

/* Macros that define a red-black tree */
#define RB_HEAD(name, type) \
struct name { \
    struct type *rbh_root; /* root of the tree */ \
}

#define RB_INITIALIZER(root) \
{ \
    NULL \
}

#define RB_INIT(root) do { \
    (root)->rbh_root = NULL; \
} while (/*CONSTCOND*/ 0)

#define RB_BLACK 0
#define RB_RED 1
#define RB_ENTRY(type) \
struct { \
    struct type *rbe_left; /* left element */ \
    struct type *rbe_right; /* right element */ \
    struct type *rbe_parent; /* parent element */ \
    int rbe_color; /* node color */ \
}

#define RB_LEFT(elm, field) (elm)->field.rbe_left
#define RB_RIGHT(elm, field) (elm)->field.rbe_right
#define RB_PARENT(elm, field) (elm)->field.rbe_parent
#define RB_COLOR(elm, field) (elm)->field.rbe_color
#define RB_ROOT(head) (head)->rbh_root
#define RB_EMPTY(head) (RB_ROOT(head) == NULL)

#define RB_SET(elm, parent, field) do { \
    RB_PARENT(elm, field) = parent; \
    RB_LEFT(elm, field) = RB_RIGHT(elm, field) = NULL; \
    RB_COLOR(elm, field) = RB_RED; \
} while (/*CONSTCOND*/ 0)

#define RB_SET_BLACKRED(black, red, field) do { \
    RB_COLOR(black, field) = RB_BLACK; \
    RB_COLOR(red, field)

```

```

= RB_RED;  \
} while (/*CONSTCOND*/ 0)

#ifndef RB_AUGMENT
#define RB_AUGMENT(x) do {} while (/*CONSTCOND*/ 0)
#endif

#define RB_ROTATE_LEFT(head, elm, tmp, field) do { \
    (tmp) = RB_RIGHT(elm, field); \
    if ((RB_RIGHT(elm, field) = RB_LEFT(tmp, field)) != NULL) { \
        RB_PARENT(RB_LEFT(tmp, field), field) = (elm); \
    } \
    RB_AUGMENT(elm); \
    if ((RB_PARENT(tmp, field) = RB_PARENT(elm, field)) != NULL) { \
        if ((elm) == RB_LEFT(RB_PARENT(elm, field), field)) \
            RB_LEFT(RB_PARENT(elm, field), field) = (tmp); \
        else \
            RB_RIGHT(RB_PARENT(elm, field), field) = (tmp); \
    } else \
        (head)->rbh_root = (tmp); \
    RB_LEFT(tmp, field) = (elm); \
    RB_PARENT(elm, field) = (tmp); \
    RB_AUGMENT(tmp); \
    if ((RB_PARENT(tmp, field))) \
        RB_AUGMENT(RB_PARENT(tmp, field)); \
} while (/*CONSTCOND*/ 0)

#define RB_ROTATE_RIGHT(head, elm, tmp, field) do { \
    (tmp) = RB_LEFT(elm, field); \
    if ((RB_LEFT(elm, field) = RB_RIGHT(tmp, field)) \
        != NULL) { \
        RB_PARENT(RB_RIGHT(tmp, field), field) = (elm); \
    } \
    RB_AUGMENT(elm); \
    if ((RB_PARENT(tmp, field) = RB_PARENT(elm, field)) != NULL) { \
        if ((elm) == RB_LEFT(RB_PARENT(elm, field), field)) \
            RB_LEFT(RB_PARENT(elm, field), field) = (tmp); \
        else \
            RB_RIGHT(RB_PARENT(elm, field), field) = (tmp); \
    } else \
        (head)->rbh_root = (tmp); \
    RB_RIGHT(tmp, field) = (elm); \
    RB_PARENT(elm, field) = (tmp); \
    RB_AUGMENT(tmp); \
    if ((RB_PARENT(tmp, field))) \
        RB_AUGMENT(RB_PARENT(tmp, field)); \
} while (/*CONSTCOND*/ 0)

```



```

/* Generates prototypes and inline functions */
#define RB_PROTOTYPE(name, type, field, cmp) \
    RB_PROTOTYPE_INTERNAL(name, type, field, cmp,)
#define RB_PROTOTYPE_STATIC(name, type, field, cmp) \
    RB_PROTOTYPE_INTERNAL(name, type, field, cmp, _sys_tree_h_unused static)
#define RB_PROTOTYPE_INTERNAL(name, type, field, cmp, attr) \
    attr void name##_RB_INSERT_COLOR(struct name *, struct \
        type *); \
    attr void name##_RB_REMOVE_COLOR(struct name *, struct type *, struct type *); \
    attr struct type *name##_RB_REMOVE(struct name *, struct type *); \
    attr struct type *name##_RB_INSERT(struct name *, struct type *); \
    attr struct type *name##_RB_FIND(struct name *, struct type *); \
    attr struct type *name##_RB_NFIND(struct name *, struct type *); \
    attr struct type *name##_RB_NEXT(struct type *); \
    attr struct type *name##_RB_PREV(struct type *); \
    attr struct type *name##_RB_MINMAX(struct name *, int); \
    \

/* Main rb operation.
 * Moves node close to the key of elm to top
 */
#define RB_GENERATE(name, type, field, cmp) \
    RB_GENERATE_INTERNAL(name, type, field, cmp,)
#define RB_GENERATE_STATIC(name, type, field, cmp) \
    RB_GENERATE_INTERNAL(name, type, field, cmp, _sys_tree_h_unused static)
#define RB_GENERATE_INTERNAL(name, type, field, cmp, attr) \
    attr void \
    name##_RB_INSERT_COLOR(struct name *head, struct type *elm) \
    { \
        struct type \
        *parent, *gparent, *tmp; \
        while ((parent = RB_PARENT(elm, field)) != NULL && \
            RB_COLOR(parent, field) == RB_RED) { \
            gparent = RB_PARENT(parent, field); \
            if (parent == RB_LEFT(gparent, field)) { \
                tmp = RB_RIGHT(gparent, field); \
                if (tmp && RB_COLOR(tmp, field) == RB_RED) { \
                    RB_COLOR(tmp, field) = RB_BLACK; \
                    RB_SET_BLACKRED(parent, gparent, field); \
                    elm = gparent; \
                    continue; \
                } \
            } \
            if (RB_RIGHT(parent, field) == elm) { \
                RB_ROTATE_LEFT(head, parent, tmp, field); \
                tmp = parent; \
                parent = elm; \
                elm = tmp; \
            } \
        } \
    }

```

```

RB_SET_BLACKRED(parent, gparent, field); \
RB_ROTATE_RIGHT(head, gparent, tmp, field); \
} else { \
    tmp = RB_LEFT(gparent, field); \
    if (tmp && RB_COLOR(tmp, field) == RB_RED) { \
        RB_COLOR(tmp, field) = RB_BLACK; \
        RB_SET_BLACKRED(parent, gparent, field); \
        elm = gparent; \
        continue; \
    } \
    if (RB_LEFT(parent, field) == elm)
{ \
    RB_ROTATE_RIGHT(head, parent, tmp, field); \
    tmp = parent; \
    parent = elm; \
    elm = tmp; \
} \
    RB_SET_BLACKRED(parent, gparent, field); \
    RB_ROTATE_LEFT(head, gparent, tmp, field); \
} \
} \
RB_COLOR(head->rbh_root, field) = RB_BLACK; \
} \
\
attr void \
name##_RB_REMOVE_COLOR(struct name *head, struct type *parent, struct type *elm) \
{ \
    struct type *tmp; \
    while ((elm == NULL || RB_COLOR(elm, field) == RB_BLACK) && \
        elm != RB_ROOT(head)) { \
        if (RB_LEFT(parent, field) == elm) { \
            tmp = RB_RIGHT(parent, field); \
            if (RB_COLOR(tmp, field) == RB_RED) { \
                RB_SET_BLACKRED(tmp, parent, field); \
                RB_ROTATE_LEFT(head, parent, tmp, field); \
                tmp = RB_RIGHT(parent, field); \
            } \
            if ((RB_LEFT(tmp, field) == NULL || \
                RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) && \
                (RB_RIGHT(tmp, field) == NULL || \
                RB_COLOR(RB_RIGHT(tmp,
field), field) == RB_BLACK)) {\
                RB_COLOR(tmp, field) = RB_RED; \
                elm = parent; \
                parent = RB_PARENT(elm, field); \
            } else { \
                if (RB_RIGHT(tmp, field) == NULL || \
                    RB_COLOR(RB_RIGHT(tmp, field), field) == RB_BLACK) {\

```

```

struct type *oleft; \
if ((oleft = RB_LEFT(tmp, field)) \
    != NULL) \
    RB_COLOR(oleft, field) = RB_BLACK;\
RB_COLOR(tmp, field) = RB_RED; \
RB_ROTATE_RIGHT(head, tmp, oleft, field);\
tmp = RB_RIGHT(parent, field); \
} \
RB_COLOR(tmp, field) = RB_COLOR(parent, field);\
RB_COLOR(parent, field) = RB_BLACK; \
if (RB_RIGHT(tmp, field)) \
    RB_COLOR(RB_RIGHT(tmp, field), field) = RB_BLACK;\
RB_ROTATE_LEFT(head, parent, tmp, field);\
elm = RB_ROOT(head); \
break; \
} \
} else { \
    tmp = RB_LEFT(parent, field); \
    if (RB_COLOR(tmp, field) == RB_RED) { \
        RB_SET_BLACKRED(tmp, parent, field); \
        RB_ROTATE_RIGHT(head, parent, tmp, field);\
        tmp
= RB_LEFT(parent, field); \
    } \
    if ((RB_LEFT(tmp, field) == NULL || \
        RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) &&\
        (RB_RIGHT(tmp, field) == NULL || \
        RB_COLOR(RB_RIGHT(tmp, field), field) == RB_BLACK)) {\
        RB_COLOR(tmp, field) = RB_RED; \
        elm = parent; \
        parent = RB_PARENT(elm, field); \
    } else { \
        if (RB_LEFT(tmp, field) == NULL || \
            RB_COLOR(RB_LEFT(tmp, field), field) == RB_BLACK) {\
            struct type *oright; \
            if ((oright = RB_RIGHT(tmp, field)) \
                != NULL) \
                RB_COLOR(oright, field) = RB_BLACK;\
            RB_COLOR(tmp, field) = RB_RED; \
            RB_ROTATE_LEFT(head, tmp, oright, field);\
            tmp = RB_LEFT(parent, field); \
        } \
        RB_COLOR(tmp, field) = RB_COLOR(parent, field);\
        RB_COLOR(parent, field) = RB_BLACK; \
        if (RB_LEFT(tmp, field)) \
            RB_COLOR(RB_LEFT(tmp, field), field) = RB_BLACK;\
        RB_ROTATE_RIGHT(head, parent, tmp, field);\
        elm = RB_ROOT(head); \
    }

```

```

        break; \
    } \
} \
} \
if
(elm) \
    RB_COLOR(elm, field) = RB_BLACK; \
} \
    \
attr struct type * \
name##_RB_REMOVE(struct name *head, struct type *elm) \
{ \
    struct type *child, *parent, *old = elm; \
    int color; \
    if (RB_LEFT(elm, field) == NULL) \
        child = RB_RIGHT(elm, field); \
    else if (RB_RIGHT(elm, field) == NULL) \
        child = RB_LEFT(elm, field); \
    else { \
        struct type *left; \
        elm = RB_RIGHT(elm, field); \
        while ((left = RB_LEFT(elm, field)) != NULL) \
            elm = left; \
        child = RB_RIGHT(elm, field); \
        parent = RB_PARENT(elm, field); \
        color = RB_COLOR(elm, field); \
        if (child) \
            RB_PARENT(child, field) = parent; \
        if (parent) { \
            if (RB_LEFT(parent, field) == elm) \
                RB_LEFT(parent, field) = child; \
            else \
                RB_RIGHT(parent, field) = child; \
            RB_AUGMENT(parent); \
        } else \
            RB_ROOT(head)
    = child; \
    if (RB_PARENT(elm, field) == old) \
        parent = elm; \
    (elm)->field = (old)->field; \
    if (RB_PARENT(old, field)) { \
        if (RB_LEFT(RB_PARENT(old, field), field) == old)\
            RB_LEFT(RB_PARENT(old, field), field) = elm;\
        else \
            RB_RIGHT(RB_PARENT(old, field), field) = elm;\
        RB_AUGMENT(RB_PARENT(old, field)); \
    } else \
        RB_ROOT(head) = elm; \
}

```

```

RB_PARENT(RB_LEFT(old, field), field) = elm; \
if (RB_RIGHT(old, field)) \
    RB_PARENT(RB_RIGHT(old, field), field) = elm; \
if (parent) { \
    left = parent; \
    do { \
        RB_AUGMENT(left); \
    } while ((left = RB_PARENT(left, field)) != NULL); \
} \
goto color; \
} \
parent = RB_PARENT(elm, field); \
color = RB_COLOR(elm, field); \
if (child) \
    RB_PARENT(child, field) = parent; \
if (parent) { \
    if (RB_LEFT(parent, field) == elm) \
        RB_LEFT(parent, field) = child; \
    else \
        RB_RIGHT(parent, \
field) = child; \
    RB_AUGMENT(parent); \
} else \
    RB_ROOT(head) = child; \
color: \
if (color == RB_BLACK) \
    name##_RB_REMOVE_COLOR(head, parent, child); \
return (old); \
} \
\
/* Inserts a node into the RB tree */ \
attr struct type * \
name##_RB_INSERT(struct name *head, struct type *elm) \
{ \
    struct type *tmp; \
    struct type *parent = NULL; \
    int comp = 0; \
    tmp = RB_ROOT(head); \
    while (tmp) { \
        parent = tmp; \
        comp = (cmp)(elm, parent); \
        if (comp < 0) \
            tmp = RB_LEFT(tmp, field); \
        else if (comp > 0) \
            tmp = RB_RIGHT(tmp, field); \
        else \
            return (tmp); \
    } \
} \

```

```

RB_SET(elm, parent, field); \
if (parent != NULL) { \
    if (comp < 0) \
        RB_LEFT(parent, field) = elm; \
    else \
        RB_RIGHT(parent, field) = elm; \
    RB_AUGMENT(parent); \
} else \
    RB_ROOT(head) = elm; \
name##_RB_INSERT_COLOR(head,
elm); \
return (NULL); \
} \
\
/* Finds the node with the same key as elm */ \
attr struct type * \
name##_RB_FIND(struct name *head, struct type *elm) \
{ \
    struct type *tmp = RB_ROOT(head); \
    int comp; \
    while (tmp) { \
        comp = cmp(elm, tmp); \
        if (comp < 0) \
            tmp = RB_LEFT(tmp, field); \
        else if (comp > 0) \
            tmp = RB_RIGHT(tmp, field); \
        else \
            return (tmp); \
    } \
    return (NULL); \
} \
\
/* Finds the first node greater than or equal to the search key */ \
attr struct type * \
name##_RB_NFIND(struct name *head, struct type *elm) \
{ \
    struct type *tmp = RB_ROOT(head); \
    struct type *res = NULL; \
    int comp; \
    while (tmp) { \
        comp = cmp(elm, tmp); \
        if (comp < 0) { \
            res = tmp; \
            tmp = RB_LEFT(tmp, field); \
        } \
        else if (comp > 0) \
            tmp =

```

```

RB_RIGHT(tmp, field); \
else \
    return (tmp); \
} \
return (res); \
} \
\
/* ARGSUSED */ \
attr struct type * \
name##_RB_NEXT(struct type *elm) \
{ \
    if (RB_RIGHT(elm, field)) { \
        elm = RB_RIGHT(elm, field); \
        while (RB_LEFT(elm, field)) \
            elm = RB_LEFT(elm, field); \
    } else { \
        if (RB_PARENT(elm, field) && \
            (elm == RB_LEFT(RB_PARENT(elm, field), field))) \
            elm = RB_PARENT(elm, field); \
        else { \
            while (RB_PARENT(elm, field) && \
                (elm == RB_RIGHT(RB_PARENT(elm, field), field))) \
                elm = RB_PARENT(elm, field); \
            elm = RB_PARENT(elm, field); \
        } \
    } \
    return (elm); \
} \
\
/* ARGSUSED */ \
attr struct type * \
name##_RB_PREV(struct type *elm) \
{ \
    if (RB_LEFT(elm, field)) { \
        elm = RB_LEFT(elm, field); \
        while (RB_RIGHT(elm, field)) \
            elm = RB_RIGHT(elm, field); \
    } \
    else { \
        if (RB_PARENT(elm, field) && \
            (elm == RB_RIGHT(RB_PARENT(elm, field), field))) \
            elm = RB_PARENT(elm, field); \
        else { \
            while (RB_PARENT(elm, field) && \
                (elm == RB_LEFT(RB_PARENT(elm, field), field))) \
                elm = RB_PARENT(elm, field); \
            elm = RB_PARENT(elm, field); \
        } \
    } \
} \

```

```

    } \
    return (elm); \
} \
\
attr struct type * \
name##_RB_MINMAX(struct name *head, int val) \
{ \
    struct type *tmp = RB_ROOT(head); \
    struct type *parent = NULL; \
    while (tmp) { \
        parent = tmp; \
        if (val < 0) \
            tmp = RB_LEFT(tmp, field); \
        else \
            tmp = RB_RIGHT(tmp, field); \
    } \
    return (parent); \
}

#define RB_NEGINF -1
#define RB_INF 1

#define RB_INSERT(name, x, y) name##_RB_INSERT(x, y)
#define RB_REMOVE(name, x, y) name##_RB_REMOVE(x, y)
#define RB_FIND(name, x, y) name##_RB_FIND(x, y)
#define RB_NFIND(name, x, y) name##_RB_NFIND(x, \
y)
#define RB_NEXT(name, x, y) name##_RB_NEXT(y)
#define RB_PREV(name, x, y) name##_RB_PREV(y)
#define RB_MIN(name, x) name##_RB_MINMAX(x, RB_NEGINF)
#define RB_MAX(name, x) name##_RB_MINMAX(x, RB_INF)

#define RB_FOREACH(x, name, head) \
for ((x) = RB_MIN(name, head); \
(x) != NULL; \
(x) = name##_RB_NEXT(x))

#define RB_FOREACH_FROM(x, name, y) \
for ((x) = (y); \
((x) != NULL) && ((y) = name##_RB_NEXT(x), (x) != NULL); \
(x) = (y))

#define RB_FOREACH_SAFE(x, name, head, y) \
for ((x) = RB_MIN(name, head); \
((x) != NULL) && ((y) = name##_RB_NEXT(x), (x) != NULL); \
(x) = (y))

#define RB_FOREACH_REVERSE(x, name, head) \

```



```

for ((x) = RB_MAX(name, head); \
    (x) != NULL; \
    (x) = name##_RB_PREV(x))

#define RB_FOREACH_REVERSE_FROM(x, name, y) \
for ((x) = (y); \
    ((x) != NULL) && ((y) = name##_RB_PREV(x), (x) != NULL); \
    (x) = (y))

#define RB_FOREACH_REVERSE_SAFE(x, name, \
    head, y) \
for ((x) = RB_MAX(name, head); \
    ((x) != NULL) && ((y) = name##_RB_PREV(x), (x) != NULL); \
    (x) = (y))

#endif /* _SYS_TREE_H_ */
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```

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```
# Maintainer: Natanael Copa <ncopa@alpinelinux.org>
pkgname=libart-lgpl
pkgver=2.3.21
pkgrel=8
pkgdesc="A library for high-performance 2D graphics"
url="https://www.levien.com/libart/"
arch="all"
options="!check" # No test suite.
license="LGPL-2.0-or-later"
subpackages="$pkgname-dev"
source="https://download.gnome.org/sources/libart-lgpl/2.3/libart-lgpl-$pkgver.tar.bz2"
"
```

```
builddir="$srcdir"/libart-lgpl-$pkgver
```

```
prepare() {
    update_config_sub
    default_prepare
}
```

```
build() {
    ./configure \
        --build=$CBUILD \
        --host=$CHOST \
        --prefix=/usr
    make
}
```

```
package() {
    make DESTDIR="$pkgdir" install
}
```

```
sha512sums="8a632a6a4da59e5e8c02ec2f5a57e36d182b325b46513765425e5f171ff9ae326af1b133725beba28f7e7
6654309e001aee9bace727b5b4c8589405256a3c020 libart-lgpl-2.3.21.tar.bz2"
```

mini_sendmail - accept email on behalf of real sendmail

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1.34 parquet-go 1.6.2

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1.35 parquet-go-source 0.0.0-20241021075129-b732d2ac9c9b

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1.36 iputils 20240905-r0

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<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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1.37 alpine-baselayout 3.7.0-r0

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```
# Automatically generated by apkbuild-cpan, template 1
# Contributor: Francesco Colista <francesco.colista@gmail.com>
# Maintainer: Francesco Colista <francesco.colista@gmail.com>
pkgname=perl-software-license
_pkgreal=Software-License
pkgver=0.103004
pkgrel=0
pkgdesc="packages that provide templated software licenses"
url="http://search.cpan.org/dist/Software-License/"
```

```

arch="noarch"
license="GPL PerlArtistic"
cpandepends="perl-text-template perl-data-section perl-sub-install"
cpanmakedepends=" "
depends="$cpandepends"
makedepends="perl-dev $cpanmakedepends"
subpackages="$pkgname-doc"
source="http://search.cpan.org/CPAN/authors/id/R/RJ/RJBS/${_pkgreal}-${pkgver}.tar.gz"

_buildddir="$srcdir/${_pkgreal}-${pkgver}"

prepare() {
    cd "$_buildddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}`
    PERL_MM_USE_DEFAULT=1 perl Makefile.PL INSTALLDIRS=vendor
}

build() {
    cd "$_buildddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}`
    make && make test
}

package() {
    cd "$_buildddir"
    make
    DESTDIR="$pkgdir" install || return 1
    find "$pkgdir" \( -name perllocal.pod -o -name .packlist \) -delete
}

md5sums="0c5fd53d93818566234578b27d667b35 Software-License-0.103004.tar.gz"
# Maintainer: Natanael Copa <ncopa@alpinelinux.org>
pkgname=libart-lgpl
pkgver=2.3.21
pkgrel=5
pkgdesc="A library for high-performance 2D graphics"
url="http://www.levien.com/libart/"
arch="all"
license="LGPL"
depends=
makedepends=
subpackages="$pkgname-dev"
source="https://download.gnome.org/sources/libart-lgpl/2.3/libart-lgpl-${pkgver}.tar.bz2"
"

_buildddir="$srcdir/libart-lgpl-${pkgver}"

prepare() {

```

```

cd "$_builddir"
update_config_sub || return 1
}
build() {
cd "$_builddir"
./configure \
--build=$CBUILD \
--host=$CHOST \
--prefix=/usr \
|| return 1
make || return 1
}

```

```

package() {
cd "$_builddir"
make DESTDIR="$pkgdir" install || return 1
}

```

```

sha512sums="8a632a6a4da59e5e8c02ec2f5a57e36d182b325b46513765425e5f171ff9ae326af1b133725beba28f7e7
6654309e001aee9bace727b5b4c8589405256a3c020 libart_lgpl-2.3.21.tar.bz2"

```

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Maintainer: Valery Kartel <valery.kartel@gmail.com>

```

pkgname=perl-bsd-resource
_pkgreal=BSD-Resource
pkgver=1.2909
pkgrel=2
pkgdesc="Perl extension implements the BSD process resource limit functions"
url="http://search.cpan.org/dist/BSD-Resource/"
arch="all"
license="GPL PerlArtistic"
cpandepends=""
cpanmakedepends=""
depends="$cpandepends"
makedepends="perl-dev $cpanmakedepends"
subpackages="$pkgname-doc"
source="http://search.cpan.org/CPAN/authors/id/J/JH/JHI/_pkgreal-$pkgver.tar.gz"

_buildddir="$srcdir/_pkgreal-$pkgver"

prepare() {
    cd "$_buildddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}`
    PERL_MM_USE_DEFAULT=1 perl Makefile.PL INSTALLDIRS=vendor
}

build() {
    cd "$_buildddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}`
    make && make test || return 1
}

package() {
    cd "$_buildddir"
    make DESTDIR="$pkgdir" install || return 1
    find "$pkgdir"
    \(-name perllocal.pod -o -name .packlist\) -delete
}

md5sums="3c6dd2fa953088aa87e263f40818d012 BSD-Resource-1.2909.tar.gz"
sha256sums="c47d460e2bd00d8d049f6ff4a0f1f61957e289e8de45af5fc79e851e2e855e06 BSD-Resource-1.2909.tar.gz"
sha512sums="5f489eaac5089e82081b7cf51d62638750e443751b49415407354da96b17771819b5e6e85529faa41ddd85743363750157943c7f7700276cce2bd40a429fa430 BSD-Resource-1.2909.tar.gz"
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pkgname=py-flake8-copyright

_pkgname=flake8-copyright

pkgver=0.2.0

pkgrel=1

pkgdesc="Extension for flake8 which checks for copyrights"

url="https://github.com/savoirfairelinux/flake8-copyright"

arch="noarch"

license="MIT"

depends="flake8"

makedepends="python3-dev"

```
source="https://files.pythonhosted.org/packages/source/${_pkgname:0:1}/${_pkgname}/${_pkgname}-${pkgver}.tar.gz"
builddir="${srcdir}/${_pkgname}-${pkgver}
```

```
build() {
    cd "$builddir"
    python3 setup.py build || return 1
}
```

```
package() {
    cd "$builddir"
    python3 setup.py install --prefix=/usr --root="$pkgdir" || return 1
}
```

```
md5sums="c6348990c6d74933bf5d5f6a55a14bdf flake8-copyright-0.2.0.tar.gz"
sha256sums="aeef26eb4d5223c9cd5b101e68175fcef6d2b353bf36da688fdde62fccfe2b73 flake8-copyright-0.2.0.tar.gz"
sha512sums="bab1bfaeed3a525ac3c7da12b1f2ec338c204cc69b72d05cd39560e528faff5d586c3b1be9570f4a977a7e2417b586e543bfba12abce256b2023c8c4993eeb90
    flake8-copyright-0.2.0.tar.gz"
mini_sendmail - accept email on behalf of real sendmail
```

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1.38 libbsd 0.12.2-r0

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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

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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/pwcache.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/strtou.3bsd
man/unvis.3bsd
man/vis.3bsd
man/wcslcpy.3bsd

src/getbsize.c
src/heapsort.c
src/merge.c
src/nlist.c
src/pwcache.c
src/radixsort.c
src/setmode.c
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src/strnstr.c
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man/setproctitle.3bsd

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include/bsd/stringlist.h

man/arc4random.3bsd

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

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man/byteorder.3bsd
man/closefrom.3bsd
man/expand_number.3bsd
man/flopen.3bsd
man/getpeereid.3bsd
man/pidfile.3bsd
src/expand_number.c
src/pidfile.c
src/reallocf.c
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Files:

include/bsd/sys/tree.h
man/fparseln.3bsd
man/tree.3bsd
src/fparseln.c

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Files:

include/bsd/readpassphrase.h
man/readpassphrase.3bsd
man/strncpy.3bsd
man/strtonum.3bsd
src/arc4random.c
src/arc4random_linux.h
src/arc4random_uniform.c
src/arc4random_unix.h
src/arc4random_win.h
src/closefrom.c
src/freezero.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/recallocarray.c
src/strlcat.c

src/strncpy.c

test/explicit_bzero.c

test/strtonum.c

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Copyright 2008, 2010-2011, 2016-2017 Otto Moerbeek <otto@drijf.net>

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Files:

src/inet_net_pton.c

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Files:

src/explicit_bzero.c

src/chacha_private.h

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man/mdX.3bsd

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1.39 go-jmespath 0.4.0

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1.40 golang-snappy 1.0.0

1.40.1 Available under license :

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as the
same person when interacting with Gerrit.

Please keep the list sorted.

Aamir Khan <syst3m.w0rm@gmail.com>
Aaron Cannon <cannona@fireantproductions.com>
Aaron France <aaron.l.france@gmail.com>
Aaron Jacobs <jacobsa@google.com>
Aaron Kemp <kemp.aaron@gmail.com>
Aaron Stein <aaronstein12@gmail.com>
Aaron Torres <tcboox@gmail.com>
Aaron Zinman <aaron@azinman.com>
Aarti Parikh <aarti.parikh@gmail.com>
Abdullah Al Maruf <mymail.maruf@gmail.com>
Abe Haskins <abeisgreat@abeisgreat.com>
Abhinav Gupta <abhinav.g90@gmail.com>
Adam Azarchs <adam.azarchs@10xgenomics.com>
Adam Bender <abender@google.com>
Adam Eijdenberg <adam@continusec.com>
Adam Harvey <aharvey@php.net>
Adam Kisala <adam.kisala@gmail.com>
Adam Langley <agl@golang.org>
Adam Medzinski <adam.medzinski@gmail.com>
Adam Shannon <adamkshannon@gmail.com>
Adam Sindelar <adamsh@google.com>
Adam Thomason <athomason@gmail.com>
Adam Woodbeck <adam@woodbeck.net>
Aditya Mukerjee <dev@chimeracoder.net>
Adrian Hesketh <adrianhesketh@hushmail.com>
Adrian
Nos <nos.adrian@gmail.com>
Adrian O'Grady <elpollouk@gmail.com>
Adrien Bustany <adrien-xx-google@bustany.org>
Adrien Petel <peteladrien@gmail.com>
Acio Jnior <aeciodantasjunior@gmail.com>
Aeneas Rekkas (arekkas) <aeneas@ory.am>
Afanasev Stanislav <phpprogger@gmail.com>
Agis Anastasopoulos <agis.anast@gmail.com>
Agniva De Sarker <agnivade@yahoo.co.in>
Ahmed Wahed <oneofone@gmail.com>
Ahmet Alp Balkan <ahmetb@google.com>
Ahmet Soormally <ahmet@mangomm.co.uk>
Ahmy Yulrizka <yulrizka@gmail.com>
Aiden Scandella <ai@uber.com>
Ainar Garipov <gugl.zadolbal@gmail.com>
Aishraj Dahal <aishraj@users.noreply.github.com>
Akhil Indurti <contact@akhilindurti.com>

Akihiro Suda <suda.kyoto@gmail.com>
Akshat Kumar <seed@mail.nanosouffle.net>
Alan Braithwaite <alan@ipaddr.org>
Alan Donovan <adonovan@google.com>
Alan Shreve <alan@inconshreveable.com>
Albert Nigmatzianov <albertnigma@gmail.com>
Albert Strasheim <fullung@gmail.com>
Albert Yu <yukinying@gmail.com>
Alberto Bertogli <albertito@blitiri.com.ar>
Alberto
Donizetti <alb.donizetti@gmail.com>
Alberto Garca Hierro <alberto@garciahierro.com> <alberto.garcia.hierro@gmail.com>
Aleksa Sarai <cyphar@cyphar.com>
Aleksandar Dezelin <dezelin@gmail.com>
Aleksandr Lukinykh <a.lukinykh@xsolla.com>
Aleksandr Razumov <ar@cydev.ru>
Alekseev Artem <a.artem060@gmail.com>
Alessandro Arzilli <alessandro.arzilli@gmail.com>
Alessandro Baffa <alessandro.baffa@gmail.com>
Alex A Skinner <alex@lx.lc>
Alex Brainman <alex.brainman@gmail.com>
Alex Bramley <abramley@google.com>
Alex Browne <stephenalexbrowne@gmail.com>
Alex Carol <alex.carol.c@gmail.com>
Alex Jin <toalexjin@gmail.com>
Alex Kohler <alexjohnkohler@gmail.com>
Alex Myasoedov <msoedov@gmail.com>
Alex Plugaru <alex@plugaru.org> <alexandru.plugaru@gmail.com>
Alex Schroeder <alex@gnu.org>
Alex Sergeyev <abc@alexsergeyev.com>
Alex Vaghin <crhyme@google.com>
Alexander Demakin <alexander.demakin@gmail.com>
Alexander Dring <email@alex.d.ch>
Alexander F Rdseth <alexander.rodseth@appeartv.com>
Alexander
Guz <kalimatas@gmail.com>
Alexander Kauer <alexander@affine.space>
Alexander Kucherenko <alxkchr@gmail.com>
Alexander Larsson <alexander.larsson@gmail.com>
Alexander Menzhinsky <amenzhinsky@gmail.com>
Alexander Morozov <lk4d4math@gmail.com>
Alexander Neumann <alexander@bumper.de>
Alexander Orlov <alexander.orlov@loxal.net>
Alexander Pantyukhin <apantykhin@gmail.com>
Alexander Polcyn <apolcyn@google.com>
Alexander Reece <awreece@gmail.com>
Alexander Surma <surma@surmair.de>
Alexander Zhavnerchik <alex.vizor@gmail.com>

Alexander Zillion <alex@alexzillion.com>
Alexander Zolotov <goldifit@gmail.com>
Alexandre Cesaro <alexandre.cesaro@gmail.com>
Alexandre Fiori <fiorix@gmail.com>
Alexandre Maari <draeron@gmail.com>
Alexandre Normand <alexandre.normand@gmail.com>
Alexandre Parentea <aubonbeurre@gmail.com>
Alexandre Viau <alexandre@alexandreviau.net>
Alexandru Mooi <brtznr@gmail.com>
Alexei Sholik <alcosholik@gmail.com>
Alexey Alexandrov <aalexand@google.com>
Alexey Borzenkov
<snaury@gmail.com>
Alexey Naidonov <alexey.naidyonov@gmail.com>
Alexey Neganov <neganovalexey@gmail.com>
Alexey Palazhchenko <alexey.palazhchenko@gmail.com>
Alexis Hildebrandt <surryhill@gmail.com>
Alexis Hunt <lexer@google.com>
Alexis Imperial-Legrand <ail@google.com>
Ali Rizvi-Santiago <arizvisa@gmail.com>
Aliaksandr Valialkin <valyala@gmail.com>
Alif Rachmawadi <subosito@gmail.com>
Allan Simon <allan.simon@supinfo.com>
Alok Menghrajani <alok.menghrajani@gmail.com>
Aman Gupta <aman@tmm1.net>
Amir Mohammad Saied <amir@gluegadget.com>
Amr Mohammed <merodiro@gmail.com>
Amrut Joshi <amrut.joshi@gmail.com>
Anand K. Mistry <anand@mistry.ninja>
Anders Pearson <anders@columbia.edu>
Andr Carvalho <asantostc@gmail.com>
Andre Nathan <andrenth@gmail.com>
Andrea Nodari <andrea.nodari91@gmail.com>
Andrea Spadaccini <spadaccio@google.com>
Andreas Auernhammer <aead@mail.de>
Andreas Jellinghaus <andreas@ionisiert.de> <anj@google.com>
Andreas Litt <andreas.litt@gmail.com>
Andrei Gherzan <andrei@resin.io>
Andrei
Korzhevskii <a.korzhevskiy@gmail.com>
Andrei Tudor Clin <mail@acln.ro>
Andrei Vieru <euvieru@gmail.com>
Andres Erbsen <andreser@google.com>
Andres Lowrie <andres.lowrie@gmail.com>
Andrew Austin <andrewacht@gmail.com>
Andrew Balholm <andybalholm@gmail.com>
Andrew Benton <andrewmbenton@gmail.com>
Andrew Bonventre <andybons@chromium.org>

Andrew Braunstein <awbraunstein@gmail.com>
Andrew Bursavich <abursavich@gmail.com>
Andrew Ekstedt <andrew.ekstedt@gmail.com>
Andrew Etter <andrew.etter@gmail.com>
Andrew Gerrand <adg@golang.org>
Andrew Harding <andrew@spacemonkey.com>
Andrew Jackura <ajackura@google.com>
Andrew Lutomirski <andy@luto.us>
Andrew Pilloud <andrewpilloud@igneoussystems.com>
Andrew Pogrebnoy <absourd.noise@gmail.com>
Andrew Poydence <apoydence@pivotal.io>
Andrew Pritchard <awpritchard@gmail.com>
Andrew Radev <andrey.radev@gmail.com>
Andrew Skiba <skibaa@gmail.com>
Andrew Stribblehill <ads@wompom.org>
Andrew Szeto <andrew@jabagawee.com>
Andrew Werner <andrew@upthere.com>
<awerner32@gmail.com>
Andrew Wilkins <axwalk@gmail.com>
Andrew Williams <williams.andrew@gmail.com>
Andrey Mirtchovski <mirtchovski@gmail.com>
Andrey Petrov <andrey.petrov@shazow.net>
Andrii Soldatenko <andrii.soldatenko@gmail.com>
Andrii Soluk <isoluchok@gmail.com>
Andriy Lytvynov <lytvynov.a.v@gmail.com>
Andrzej eel <andrii.zhezhel@gmail.com>
Andy Balholm <andy@balholm.com>
Andy Davis <andy@bigandian.com>
Andy Finkensadt <afinkensadt@zynga.com>
Andy Lindeman <andy@lindeman.io>
Andy Maloney <asmaloney@gmail.com>
Andy Walker <walkeraj@gmail.com>
Andzej Maciusovic <andzej.maciusovic@gmail.com>
Anfernee Yongkun Gui <anfernee.gui@gmail.com>
Angelo Bulfone <mbulfone@gmail.com>
Anh Hai Trinh <anh.hai.trinh@gmail.com>
Anit Gandhi <anitgandhi@gmail.com>
Ankit Goyal <ankit3goyal@gmail.com>
Anmol Sethi <anmol@aubble.com>
Anschel Schaffer-Cohen <anschelsc@gmail.com>
Anthony Alves <cvballa3g0@gmail.com>
Anthony Canino <anthony.canino1@gmail.com>
Anthony Eufemio <anthony.eufemio@gmail.com>
Anthony
Fok <foka@debian.org>
Anthony Martin <ality@pbrane.org>
Anthony Sottile <asottile@umich.edu>
Anthony Starks <ajstarks@gmail.com>

Anthony Voutas <voutasaurus@gmail.com>
Anthony Woods <awoods@raintank.io>
Antoine GIRARD <sapk@sapk.fr>
Antoine Martin <antoine97.martin@gmail.com>
Anton Gyllenberg <anton@iki.fi>
Antonin Amand <antonin.amand@gmail.com>
Antonio Antelo <aantelov87@gmail.com>
Antonio Bibiano <antbbn@gmail.com>
Antonio Murdaca <runcom@redhat.com>
Antonio Troina <thoeni@gmail.com>
Apisak Darakananda <pongad@gmail.com>
Aram Hvrneanu <aram@mgk.ro>
Areski Belaid <areski@gmail.com>
Ariel Mashraki <ariel@mashraki.co.il>
Arkadi Pyuro <arkadi@google.com>
Arlo Breault <arlolra@gmail.com>
Arnaud Ysmal <arnaud.ysmal@gmail.com>
Arne Hormann <arnehormann@gmail.com>
Arnout Engelen <arnout@bzzt.net>
Aron Nopanen <aron.nopanen@gmail.com>
Arthur Fabre <arthur@arthurfabre.com>
Arthur Khashaev <arthur@khashaev.ru>
Artyom Pervukhin <artyom.pervukhin@gmail.com>
Arvinth Rajesh Tamilmani <art@a-30.net>
Ashish
Gandhi <ag@ashishgandhi.org>
Asim Shankar <asimshankar@gmail.com>
Atin Malaviya <amalaviy@akamai.com>
Ato Araki <ato.araki@gmail.com>
Audrey Lim <audreylh@gmail.com>
Audrius Butkevicius <audrius.butkevicius@gmail.com>
Augusto Roman <aroman@gmail.com>
Aulus Egnatius Varialus <varialus@gmail.com>
Aurlien Rainone <aurelien.rainone@gmail.com>
Austin Clements <austin@google.com> <aclements@csail.mit.edu>
Avi Flax <avi@timehop.com>
awaw fumin <awawfumin@gmail.com>
Awn Umar <awn@cryptolosophy.io>
Axel Wagner <axel.wagner.hh@googlemail.com>
Ayanamist Yang <ayanamist@gmail.com>
Aymerick Jhanne <aymerick@jehanne.org>
Azat Kaumov <kaumov.a.r@gmail.com>
Baiju Muthukadan <baiju.m.mail@gmail.com>
Balaram Makam <bmakam.qdt@qualcommdatacenter.com>
Balazs Lecz <leczb@google.com>
Baokun Lee <nototon@gmail.com>
Bartosz Grzybowski <melkorm@gmail.com>
Bartosz Oler <brtsz@google.com>

Bastian Ike <bastian.ike@gmail.com>
Ben Burkert <ben@benburkert.com>
Ben Eitzen <eitzenb@golang.org>
Ben
Fried <ben.fried@gmail.com>
Ben Haines <bhainesva@gmail.com>
Ben Hoyt <benhoyt@gmail.com>
Ben Laurie <ben@links.org> <benl@google.com>
Ben Lubar <ben.lubar@gmail.com>
Ben Lynn <benlynn@gmail.com>
Ben Olive <sionide21@gmail.com>
Ben Schwartz <bemasc@google.com>
Ben Shi <powerman1st@163.com>
Benjamin Black <b@b3k.us>
Benjamin Cable <cable.benjamin@gmail.com>
Benjamin Hsieh <tanookiben@users.noreply.github.com>
Benjamin Prosnitz <bprosnitz@google.com>
Benjamin Wester <bweste@squareup.com>
Benny Siegert <bsiegert@gmail.com>
Benoit Sigoure <tsunanet@gmail.com>
Berengar Lehr <Berengar.Lehr@gmx.de>
Bill Neubauer <wcn@golang.org> <wcn@google.com> <bill.neubauer@gmail.com>
Bill O'Farrell <billo@ca.ibm.com>
Bill Prin <waprin@google.com>
Bill Thiede <couchmoney@gmail.com>
Bill Zissimopoulos <billziss@navimatics.com>
Billie Harold Cleek <bhcleek@gmail.com>
Billy Lynch <wlynch@google.com>
Bjorn Tillenius <bjorn@tillenius.me>
Bjorn Tipling <bjorn.tipling@gmail.com>
Blain Smith <rebelgeek@blainsmith.com>
Blake
Gentry <blakesgentry@gmail.com>
Blake Mesdag <blakemesdag@gmail.com>
Blake Mizerany <blake.mizerany@gmail.com>
Blixt <me@blixt.nyc>
Bob Briski <rbriski@gmail.com>
Bob Potter <bobby.potter@gmail.com>
Bobby DeSimone <bobbydesimone@gmail.com>
Bobby Powers <bobbypowers@gmail.com>
Boris Nagaev <nagaev@google.com>
Borja Clemente <borja.clemente@gmail.com>
Brad Burch <brad.burch@gmail.com>
Brad Fitzpatrick <bradfitz@golang.org> <bradfitz@gmail.com>
Brad Garcia <bgarcia@golang.org>
Brad Jones <rbjones@google.com>
Brad Morgan <brad@morgabra.com>
Brad Whitaker <bwhitaker@fastly.com>

Braden Bassingthwaite <bbassingthwaite@vendasta.com>
Bradley Falzon <brad@teambrad.net>
Brady Catherman <brady@gmail.com>
Brady Sullivan <brady@bsull.com>
Brandon Bennett <bbennett@fb.com>
Brandon Gilmore <varz@google.com>
Brendan Daniel Tracey <tracey.brendan@gmail.com>
Brendan O'Dea <bod@golang.org>
Brett Cannon <bcannon@gmail.com>
Brett Merrill <brett.j.merrill94@gmail.com>
Brian Dellisanti <briandellisanti@gmail.com>
Brian
Downs <brian.downs@gmail.com>
Brian G. Merrell <bgmerrell@gmail.com>
Brian Gitonga Marete <marete@toshnix.com> <bgmarete@gmail.com> <bgm@google.com>
Brian Kennedy <btkenney@gmail.com>
Brian Kessler <brian.m.kessler@gmail.com>
Brian Ketelsen <bketelsen@gmail.com>
Brian Slesinsky <skybrian@google.com>
Brian Smith <ohohvi@gmail.com>
Brian Starke <brian.starke@gmail.com>
Bryan Alexander <Kozical@msn.com>
Bryan C. Mills <bcmills@google.com>
Bryan Chan <bryan.chan@ca.ibm.com>
Bryan Ford <brynosaurus@gmail.com>
Bulat Gaifullin <gaifullinbf@gmail.com>
Burak Guven <bguven@gmail.com>
Caine Tighe <arctanofyourface@gmail.com>
Caio Marcelo de Oliveira Filho <caio.oliveira@intel.com>
Caleb Martinez <accounts@calebmartinez.com>
Caleb Spare <cespare@gmail.com>
Carl Chatfield <carlchatfield@gmail.com>
Carl Henrik Lunde <chlunde@ifi.uio.no>
Carl Jackson <carl@stripe.com>
Carl Johnson <me@carlmjohnson.net>
Carl Mastrangelo <notcarl@google.com>
Carl Shapiro <cshapiro@google.com> <cshapiro@golang.org>
Carlisia
Campos <carlisia@grokkingtech.io>
Carlo Alberto Ferraris <cafxx@strayorange.com>
Carlos Castillo <cookieo9@gmail.com>
Carlos Cirello <uldericofilho@gmail.com>
Carlos Eduardo Seo <cseo@linux.vnet.ibm.com>
Carlos Souza <carloshrsouza@gmail.com>
Carolyn Van Slyck <me@carolynvanslyck.com>
Cary Hull <chull@google.com>
Case Nelson <case.nelson@gmail.com>
Casey Callendrello <squeed@gmail.com>

Casey Marshall <casey.marshall@gmail.com>
Catalin Nicutar <cnicutar@google.com>
Catalin Patulea <catalinp@google.com>
Cedric Staub <cs@squareup.com>
Cezar S Espinola <cezarsa@gmail.com>
Chad Rosier <mrosier.qdt@qualcommdatacenter.com>
ChaiShushan <chaishushan@gmail.com>
Channing Kimble-Brown <channing@golang.org>
Charles Fenwick Elliott <Charles@FenwickElliott.io>
Charles Kenney <charlesc.kenney@gmail.com>
Charles L. Dorian <cldorian@gmail.com>
Charles Lee <zombie.fml@gmail.com>
Charles Weill <weill@google.com>
Cherry Zhang <cherryyz@google.com>
Chew Choon Keat <choonkeat@gmail.com>
Cholerae
Hu <choleraehyq@gmail.com>
Chotepud Teo <AlexRouSg@users.noreply.github.com>
Chris Ball <chris@printf.net>
Chris Biscardi <chris@christopherbiscardi.com>
Chris Broadfoot <cbro@golang.org>
Chris Dollin <ehog.hedge@gmail.com>
Chris Farmiloe <chrisfarms@gmail.com>
Chris Hines <chris.cs.guy@gmail.com>
Chris Howey <howeyc@gmail.com>
Chris Hundt <hundt@google.com>
Chris Jones <chris@cjohnes.org> <chris.jones.yar@gmail.com>
Chris Kastorff <encryptio@gmail.com>
Chris Lennert <calennert@gmail.com>
Chris Liles <caveryliles@gmail.com>
Chris Manghane <cmang@golang.org>
Chris McGee <sirnewton_01@yahoo.ca> <newton688@gmail.com>
Chris Raynor <raynor@google.com>
Chris Roche <rodaine@gmail.com>
Chris Smith <chrsmith@users.noreply.github.com>
Chris Stockton <chrisstocktonaz@gmail.com>
Chris Zou <chriszou@ca.ibm.com>
Christian Alexander <christian@linux.com>
Christian Couder <chriscool@tuxfamily.org>
Christian Himpel <chressie@googlemail.com> <chressie@gmail.com>
Christian Pellegrin <chri@evolware.org>
Christian
R. Petrin <christianpetrin@gmail.com>
Christine Hansmann <chhansmann@gmail.com>
Christoffer Buchholz <christoffer.buchholz@gmail.com>
Christoph Blecker <admin@toph.ca>
Christoph Hack <christoph@tux21b.org>
Christopher Cahoon <chris.cahoon@gmail.com>

Christopher Guiney <chris@guiney.net>
Christopher Henderson <chris@chenderson.org>
Christopher Koch <chrisko@google.com>
Christopher Nelson <nadiasvertex@gmail.com>
Christopher Nielsen <m4dh4tt3r@gmail.com>
Christopher Redden <christopher.redden@gmail.com>
Christopher Swenson <cswenson@google.com>
Christopher Wedgwood <cw@f00f.org>
Christos Zoulas <christos@zoulas.com> <zoulasc@gmail.com>
Christy Perez <christy@linux.vnet.ibm.com>
CL Sung <clsung@gmail.com> <cl_sung@htc.com>
Clment Chigot <clement.chigot@atos.net>
Clement Skau <clementskaug@gmail.com>
Cody Oss <the.cody.oss@gmail.com>
Colby Ranger <cranger@google.com>
Colin Cross <ccross@android.com>
Colin Edwards <colin@recursivepenguin.com>
Colin Kennedy <moshen.colin@gmail.com>
Colin
Nelson <colnnelson@google.com>
Colin Rice <clr@google.com>
Conrad Irwin <conrad.irwin@gmail.com>
Conrad Meyer <cemeyer@cs.washington.edu>
Conrado Gouvea <conradopl@gmail.com>
Constantin Konstantinidis <constantinkonstantinidis@gmail.com>
Corey Thomasson <cthom.lists@gmail.com>
Cosmos Nicolaou <cnicolaou@google.com>
Costin Chirvasuta <ctin@google.com>
Craig Citro <craigcitro@google.com>
Cristian Staretu <unclejacksons@gmail.com>
Cuihtlauac ALVARADO <cuihtlauac.alvarado@orange.com>
Cyrill Schumacher <cyrill@schumacher.fm>
Daisuke Fujita <dtanshi45@gmail.com>
Daker Fernandes Pinheiro <daker.fernandes.pinheiro@intel.com>
Damian Gryski <dgryski@gmail.com>
Damien Lespiau <damien.lespiau@gmail.com> <damien.lespiau@intel.com>
Damien Mathieu <42@dmathieu.com>
Damien Neil <dneil@google.com>
Damien Tournoud <damien@platform.sh>
Dan Ballard <dan@mindstab.net>
Dan Caddigan <goldcaddy77@gmail.com>
Dan Callahan <dan.callahan@gmail.com>
Dan Harrington <harringtond@google.com>
Dan
Jacques <dnj@google.com>
Dan Johnson <computerdruid@google.com>
Dan Peterson <dpiddy@gmail.com>
Dan Pupius <dan@medium.com>

Dan Sinclair <dan.sinclair@gmail.com>
Danil de Kok <me@danieldk.eu>
Daniel Fleischman <danielfleischman@gmail.com>
Daniel Ingram <ingramds@appstate.edu>
Daniel Johansson <dajo2002@gmail.com>
Daniel Kerwin <d.kerwin@gini.net>
Daniel Krech <eikeon@eikeon.com>
Daniel Lidn <daniel.liden.87@gmail.com>
Daniel Mart <mvdan@mvdan.cc>
Daniel Morsing <daniel.morsing@gmail.com>
Daniel Nadasi <dnadasi@google.com>
Daniel Nephin <dnephin@gmail.com>
Daniel Ortiz Pereira da Silva <daniel.particular@gmail.com>
Daniel Skinner <daniel@dasa.cc>
Daniel Speichert <daniel@speichert.pl>
Daniel Theophanes <kardianos@gmail.com>
Daniel Upton <daniel@floppy.co>
Daniela Petruzalek <daniela.petruzalek@gmail.com>
Danny Rosseau <daniel.rosseau@gmail.com>
Daria Kolistratova <daria.kolistratova@intel.com>
Darien Raymond <admin@v2ray.com>
Darren Elwood <darren@textnode.com>
Darshan Parajuli <parajulidarshan@gmail.com>
Datong
Sun <dndx@idndx.com>
Dave Borowitz <dborowitz@google.com>
Dave Bort <dbort@golang.org>
Dave Cheney <dave@cheney.net>
Dave Day <djd@golang.org>
Dave Grijalva <dgrijalva@ngmoco.com>
Dave MacFarlane <driusan@gmail.com>
Dave Russell <forfuncsake@gmail.com>
David Anderson <danderson@google.com>
David Barnett <dbarnett@google.com>
David Benjamin <davidben@google.com>
David Brophy <dave@brophy.uk>
David Brgin <676c7473@gmail.com>
David Calavera <david.calavera@gmail.com>
David Carlier <devnexen@gmail.com>
David Chase <drchase@google.com>
David Covert <davidhcovert@gmail.com>
David Crawshaw <david.crawshaw@zentus.com> <crawshaw@google.com> <crawshaw@golang.org>
David du Colombier <0intro@gmail.com>
David Forsythe <dforsythe@gmail.com>
David G. Andersen <dave.andersen@gmail.com>
David Glasser <glasser@meteor.com>
David Heuschmann <heuschmann.d@gmail.com>
David Howden <dhowden@gmail.com>

David Hubbard <dsp@google.com>
David Jakob Fritz <david.jakob.fritz@gmail.com>
David
Jones <dxjones@gmail.com>
David Lazar <lazard@golang.org>
David Leon Gil <coruus@gmail.com>
David McLeish <davemc@google.com>
David Ndungu <dnjuguna@gmail.com>
David NewHamlet <david@newhamlet.com>
David Presotto <presotto@gmail.com>
David R. Jenni <david.r.jenni@gmail.com>
David Sansome <me@davidsansome.com>
David Stainton <dstainton415@gmail.com>
David Symonds <dsymonds@golang.org>
David Thomas <davidthomas426@gmail.com>
David Timm <dtimm@pivotal.io>
David Titarenco <david.titarenco@gmail.com>
David Tolpin <david.tolpin@gmail.com>
David Url <david@urld.io>
David Volquartz Lebech <david@lebech.info>
David Wimmer <davidlwimmer@gmail.com>
Davies Liu <davies.liu@gmail.com>
Davor Kapsa <davor.kapsa@gmail.com>
Dean Prichard <dean.prichard@gmail.com>
Deepak Jois <deepak.jois@gmail.com>
Denis Bernard <db047h@gmail.com>
Denis Brandolini <denis.brandolini@gmail.com>
Denis Nagorny <denis.nagorny@intel.com>
Dennis Kuhnert <mail.kuhnert@gmail.com>
Denys Honsiorovskiy <honsiorovskiy@gmail.com>
Denys
Smirnov <denis.smirnov.91@gmail.com>
Derek Buitenhuis <derek.buitenhuis@gmail.com>
Derek Che <drc@yahoo-inc.com>
Derek McGowan <derek@mcgstyle.net>
Derek Parker <parkerderek86@gmail.com>
Derek Shockey <derek.shockey@gmail.com>
Dev Ojha <dojha12@gmail.com>
Dev Zhoujun <dev.zhoujun@gmail.com>
Devon H. O'Dell <devon.odell@gmail.com>
Dhaivat Pandit <dhaivatpandit@gmail.com>
Dhananjay Nakrani <dhananjayn@google.com>
Dhiru Kholia <dhiru.kholia@gmail.com>
Dhruvdudd Jadhav <dhruvdudd.jadhav@gmail.com>
Di Xiao <dixiao@google.com>
Didier Spezia <didier.06@gmail.com>
Diego Siqueira <diego9889@gmail.com>
Dieter Plaetinck <dieter@raintank.io>

Dimitri Sokolyuk <sokolyuk@gmail.com>
Dimitri Tcaciuc <dtcaciuc@gmail.com>
Dina Garmash <dgrmsh@gmail.com>
Diogo Pinela <diogoid7400@gmail.com>
Dirk Gadsden <dirk@esherido.com>
Diwaker Gupta <diwakergupta@gmail.com>
Dmitri Popov <operator@cv.dp-net.com>
Dmitri Shuralyov <dmitshur@golang.org> <dmitri@shuralyov.com>
Dmitriy Cherchenko <dcherchenko@gmail.com>
Dmitriy
Dudkin <dudkin.dmitriy@gmail.com>
Dmitriy Shelenin <deemok@googlemail.com> <deemok@gmail.com>
Dmitriy Vyukov <dvyukov@google.com>
Dmitry Chestnykh <dchest@gmail.com>
Dmitry Doroginin <doroginin@gmail.com>
Dmitry Neverov <dmitry.neverov@gmail.com>
Dmitry Savintsev <dsavints@gmail.com>
Dmitry Yakunin <nonamezeil@gmail.com>
Domen Ipavec <domen@ipavec.net>
Dominic Green <dominicgreen1@gmail.com>
Dominik Honnef <dominik.honnef@gmail.com>
Dominik Vogt <vogt@linux.vnet.ibm.com>
Don Byington <don@dbyington.com>
Donald Huang <don.hcd@gmail.com>
Dong-hee Na <donghee.na92@gmail.com>
Donovan Hide <donovanhide@gmail.com>
Doug Anderson <douga@google.com>
Doug Fawley <dfawley@google.com>
Douglas Danger Manley <doug.manley@gmail.com>
Drew Flower <drewvanstone@gmail.com>
Drew Hintz <adhintz@google.com>
Duncan Holm <mail@frou.org>
Dustin Carlino <dcarlino@google.com>
Dustin Herbison <djherbis@gmail.com>
Dustin Long <dustmop@gmail.com>
Dustin Sallings <dsallings@gmail.com>
Dustin Shields-Cloues
<dcloues@gmail.com>
Dvir Volk <dvir@everything.me> <dvirsky@gmail.com>
Dylan Waits <dylan@waits.io>
Edan Bedrik <3d4nb3@gmail.com>
Eden Li <eden.li@gmail.com>
Eduard Urbach <e.urbach@gmail.com>
Eduardo Ramalho <eduardo.ramalho@gmail.com>
Edward Muller <edwardam@interlix.com>
Egon Elbre <egonelbre@gmail.com>
Ehren Kret <ehren.kret@gmail.com>
Eitan Adler <lists@eitanadler.com>

Eivind Uggedal <eivind@uggedal.com>
Elbert Fliek <efliek@gmail.com>
Eldar Rakhimberdin <ibeono@gmail.com>
Elena Grahovac <elena@grahovac.me>
Elias Naur <mail@eliasnaur.com> <elias.naur@gmail.com>
Elliot Morrison-Reed <elliottmr@gmail.com>
Emerson Lin <linyintor@gmail.com>
Emil Hessman <emil@hessman.se>
Emil Mursalimov <mursalimovemeel@gmail.com>
Emilien Kenler <hello@emilienkenler.com>
Emmanuel Odeke <emm.odeke@gmail.com> <odeke@ualberta.ca>
Eno Compton <enocom@google.com>
Eoghan Sherry <ejsherry@gmail.com>
Eric Chiang <eric.chiang.m@gmail.com>
Eric Clark <zerohp@gmail.com>
Eric Daniels <eric@erdaniels.com>
Eric
Engestrom <eric@engestrom.ch>
Eric Garrido <ekg@google.com>
Eric Koleda <ekoleda+devrel@google.com>
Eric Lagergren <ericscottlagergren@gmail.com>
Eric Milliken <emilliken@gmail.com>
Eric Pauley <eric@pauley.me>
Eric Ponce <tricokun@gmail.com>
Eric Rescorla <ekr@rtfm.com>
Eric Roshan-Eisner <eric.d.eisner@gmail.com>
Eric Rykwalder <e.rykwalder@gmail.com>
Erik Aigner <aigner.erik@gmail.com>
Erik Dubbelboer <erik@dubbelboer.com>
Erik St. Martin <alakriti@gmail.com>
Erik Staab <estaab@google.com>
Erik Westrup <erik.westrup@gmail.com>
Erin Masatsugu <erin.masatsugu@gmail.com>
Ernest Chiang <ernest_chiang@htc.com>
Erwin Oegema <blablaechthema@hotmail.com>
Esko Luontola <esko.luontola@gmail.com>
Ethan Burns <eaburns@google.com>
Ethan Miller <eamiller@us.ibm.com>
Euan Kemp <euank@euank.com>
Eugene Kalinin <e.v.kalinin@gmail.com>
Evan Broder <evan@stripe.com>
Evan Brown <evanbrown@google.com>
Evan Hicks <evan.hicks2@gmail.com>
Evan Jones <ej@evanjones.ca>
Evan Klitzke <evan@eklitzke.org>
Evan Kroske
<evankroske@google.com>
Evan Martin <evan.martin@gmail.com>

Evan Phoenix <evan@phx.io>
Evan Shaw <chickencha@gmail.com>
Evgeniy Polyakov <zbr@ioremap.net>
Ewan Chou <coocood@gmail.com>
Ewan Valentine <ewan.valentine89@gmail.com>
Eyal Posener <posener@gmail.com>
Fabian Wickborn <fabian@wickborn.net>
Fabian Zaremba <fabian@youremail.eu>
Fabrizio Milo <mistobaan@gmail.com>
Faiyaz Ahmed <ahmedf@vmware.com>
Fan Hongjian <fan.howard@gmail.com>
Fangming Fang <fangming.fang@arm.com>
Fannie Zhang <fannie.zhang@arm.com>
Fatih Arslan <fatih@arslan.io>
Fazal Majid <majid@apsalar.com>
Fazlul Shahriar <fshahriar@gmail.com>
Federico Bond <federicobond@gmail.com>
Federico Simoncelli <fsimonce@redhat.com>
Fedor Indutny <fedor@indutny.com>
Felipe Oliveira <felipeweb.programador@gmail.com>
Felix Geisendrfer <haimuiba@gmail.com>
Felix Kollmann <fk@konsorten.de>
Filip Gruszczyski <gruszczy@gmail.com>
Filip Haglund <drathier@users.noreply.github.com>
Filip Stanis <fstanis@google.com>
Filippo Valsorda
<filippo@golang.org> <filippo@cloudflare.com> <hi@filippo.io>
Firmansyah Adiputra <frm.adiputra@gmail.com>
Florian Forster <octo@google.com>
Florian Uekermann <florian@uekermann-online.de> <f1@uekermann-online.de>
Florian Weimer <fw@deneb.enyo.de>
Florin Patan <florinpatan@gmail.com>
Folke Behrens <folke@google.com>
Ford Hurley <ford.hurley@gmail.com>
Francesc Campoy <campoy@golang.org>
Francisco Claude <fclaude@recoded.cl>
Francisco Rojas <francisco.rojas.gallegos@gmail.com>
Francisco Souza <franciscossouza@gmail.com>
Frank Schroeder <frank.schroeder@gmail.com>
Frank Somers <fsomers@arista.com>
Frederic Guillot <frederic.guillot@gmail.com>
Frederick Kelly Mayle III <frederickmayle@gmail.com>
Frederik Ring <frederik.ring@gmail.com>
Fredrik Enestad <fredrik.enestad@soundtrackyourbrand.com>
Fredrik Forsmo <fredrik.forsmo@gmail.com>
Fredrik Wallgren <fredrik.wallgren@gmail.com>
Frew Schmidt <github@frew.co>
Frithjof Schulze <schulze@math.uni-hannover.de> <sfrithjof@gmail.com>

Frits van Bommel
<fvbommel@gmail.com>
Fumitoshi Ukai <ukai@google.com>
G. Hussain Chinoy <ghchinoy@gmail.com>
Gaal Yahas <gaal@google.com>
Gabriel Arthr Ptursson <gabriel@system.is>
Gabriel Aszalos <gabriel.aszalos@gmail.com>
Gabriel Nicolas Avellaneda <avellaneda.gabriel@gmail.com>
Gabriel Russell <gabriel.russell@gmail.com>
Gareth Paul Jones <gpj@foursquare.com>
Garret Kelly <gdk@google.com>
Garrick Evans <garrick@google.com>
Gary Burd <gary@beagledreams.com> <gary.burd@gmail.com>
Gary Elliott <garyelliott@google.com>
Gaurish Sharma <contact@gaurishsharma.com>
Gautham Thambidorai <gautham.dorai@gmail.com>
Gauthier Jolly <gauthier.jolly@gmail.com>
Geert-Johan Riemer <gjr19912@gmail.com>
Genevieve Luyt <genevieve.luyt@gmail.com>
Gengliang Wang <ltnwgl@gmail.com>
Geoff Berry <gberry.qdt@qualcommdatacenter.com>
Geoffroy Lorieux <lorieux.g@gmail.com>
Geon Kim <geon0250@gmail.com>
Georg Reinke <guelfey@gmail.com>
George Gkirtsou <ggirtsou@gmail.com>
George Shammass <george@shamm.as> <georgyo@gmail.com>
Gerasimos
(Makis) Maropoulos <kataras2006@hotmail.com>
Gerasimos Dimitriadis <gedimitr@gmail.com>
Gergely Brautigam <skarls0777@gmail.com>
Getulio Snchez <valentin2507@gmail.com>
Gianguido Sora` <g.sora4@gmail.com>
Gideon Jan-Wessel Redelinghuys <gjredelinghuys@gmail.com>
Giles Lean <giles.lean@pobox.com>
Giovanni Bajo <rasky@develer.com>
GitHub User @ajnrp (1688456) <ajnrp@users.noreply.github.com>
GitHub User @andrius4669 (4699695) <andrius4669@gmail.com>
GitHub User @as (8127015) <as.utf8@gmail.com>
GitHub User @bgadrian (830001) <aditza8@gmail.com>
GitHub User @bontequero (2674999) <bontequero@gmail.com>
GitHub User @cch123 (384546) <buaa.cch@gmail.com>
GitHub User @chanxuehong (3416908) <chanxuehong@gmail.com>
GitHub User @dupoxy (1143957) <dupoxy@users.noreply.github.com>
GitHub User @erifan (31343225) <eric.fang@arm.com>
GitHub User @esell (9735165) <eujon.sellers@gmail.com>
GitHub User @itchyny (375258) <itchyny@hatena.ne.jp>
GitHub User @kc1212 (1093806) <kc1212@users.noreply.github.com>
GitHub

User @Kropekk (13366453) <kamilkropiewnicki@gmail.com>
GitHub User @LotusFenn (13775899) <fenn.lotus@gmail.com>
GitHub User @madiganz (18340029) <zacharywmadigan@gmail.com>
GitHub User @mkishere (224617) <224617+mkishere@users.noreply.github.com>
GitHub User @OlgaVIPetrova (44112727) <OVPPetrova@gmail.com>
GitHub User @pityonline (438222) <pityonline@gmail.com>
GitHub User @pytimer (17105586) <lixin20101023@gmail.com>
GitHub User @saitarunreddy (21041941) <saitarunreddypalla@gmail.com>
GitHub User @shogo-ma (9860598) <Choroma194@gmail.com>
GitHub User @tell-k (26263) <ffk2005@gmail.com>
GitHub User @uhei (2116845) <uhei@users.noreply.github.com>
GitHub User @uropek (39370426) <uropek@gmail.com>
Giulio Iotti <dullgiulio@gmail.com>
Giulio Micheloni <giulio.micheloni@gmail.com>
Giuseppe Valente <gvalente@arista.com>
Gleb Stepanov <glebstepanov1992@gmail.com>
Glenn Brown <glennb@google.com>
Glenn Lewis <gmlewis@google.com>
Gordon Klaus <gordon.klaus@gmail.com>
Graham King
<graham4king@gmail.com>
Graham Miller <graham.miller@gmail.com>
Grant Griffiths <ggp493@gmail.com>
Greg Poirier <greg.istehbest@gmail.com>
Greg Steuck <gnezdo+github@google.com>
Greg Ward <greg@gerg.ca>
Grgoire Delattre <gregoire.delattre@gmail.com>
Gregory Man <man.gregory@gmail.com>
Guilherme Caruso <gui.martinscaruso@gmail.com>
Guilherme Garnier <guilherme.garnier@gmail.com>
Guilherme Goncalves <guilhermeaugustosg@gmail.com>
Guilherme Rezende <guilhermebr@gmail.com>
Guillaume J. Charmes <guillaume@charmes.net>
Guobiao Mei <meiguobiao@gmail.com>
Guoliang Wang <iamwgliang@gmail.com>
Gustav Paul <gustav.paul@gmail.com>
Gustav Westling <gustav@westling.xyz>
Gustavo Franco <gustavorfranco@gmail.com>
Gustavo Niemeyer <gustavo@niemeyer.net> <n13m3y3r@gmail.com>
Gwenael Treguier <gwenn.kahz@gmail.com>
Gyu-Ho Lee <gyuhox@gmail.com>
H. brahim Gngr <igungor@gmail.com>
Hajime Hoshi <hajimehoshi@gmail.com>
Hallgrimur Gunnarsson <halg@google.com>
HAMANO Tsukasa <hamano@osstech.co.jp>
Han-Wen
Nienhuys <hanwen@google.com>
Hang Qian <hangqian90@gmail.com>

Hanjun Kim <hallazzang@gmail.com>
Harald Nordgren <haraldnordgren@gmail.com>
Hari haran <hariharan.uno@gmail.com>
Hariharan Srinath <srinathh@gmail.com>
Harley Laue <losinggeneration@gmail.com>
Harry Moreno <morenoh149@gmail.com>
Harshavardhana <hrshvardhana@gmail.com>
Hauke Lffler <hloeffler@users.noreply.github.com>
Hvard Haugen <havard.haugen@gmail.com>
He Liu <liulonnie@gmail.com>
Hector Chu <hectorchu@gmail.com>
Hector Martin Cantero <hector@marcansoft.com>
Henning Schmiedehausen <henning@schmiedehausen.org>
Henrik Edwards <henrik.edwards@gmail.com>
Henrik Hodne <henrik@hodne.io>
Henry Adi Sumarto <henry.adisumarto@gmail.com>
Henry Bubert <google@mindeco.de>
Henry Chang <mr.changyuheng@gmail.com>
Henry Clifford <h.a.clifford@gmail.com>
Herbert Georg Fischer <herbert.fischer@gmail.com>
Herbie Ong <herbie@google.com>
Heschi Kreinick <heschi@google.com>
Hidetatsu Yaginuma <ygnmhdt@gmail.com>
Hilko Bengen <bengen@hilluzination.de>
Hiroaki
Nakamura <hnakamur@gmail.com>
Hironao OTSUBO <motemen@gmail.com>
Hiroshi Ioka <hirochachacha@gmail.com>
Hitoshi Mitake <mitake.hitoshi@gmail.com>
Holden Huang <ttyh061@gmail.com>
Hong Ruiqi <hongruiqi@gmail.com>
Hongfei Tan <feilengcui008@gmail.com>
Hossein Sheikh Attar <hattar@google.com>
Hsin Tsao <tsao@google.com>
Hsin-Ho Yeh <yhh92u@gmail.com>
Hu Keping <hukeping@huawei.com>
Hugues Bruant <hugues.bruant@gmail.com>
Huy Le <huy.dinh.le.89@gmail.com>
Hyang-Ah Hana Kim <hakim@google.com> <hyangah@gmail.com>
Ian Cottrell <iancottrell@google.com>
Ian Davis <nospam@iandavis.com>
Ian Gudger <ian@loosescre.ws>
Ian Haken <ihaken@netflix.com>
Ian Kent <iankent85@gmail.com>
Ian Lance Taylor <iant@golang.org>
Ian Leue <ian@appboy.com>
Ian Zapolsky <ianzapolsky@gmail.com>
Ibrahim AshShohail <ibra.sho@gmail.com>

Icarus Sparry <golang@icarus.freeuk.com>
Iccha Sethi <icchasethi@gmail.com>
Idora Shinatose <idora.shinatose@gmail.com>
Igor Bernstein <igorbernstein@google.com>
Igor Dolzhikov
<bluesriverz@gmail.com>
Igor Vashyst <ivashyst@gmail.com>
Igor Zhilianin <igor.zhilianin@gmail.com>
Ilya Tocar <ilya.tocar@intel.com>
INADA Naoki <songofacandy@gmail.com>
Inanc Gumus <m@inanc.io>
Ingo Gottwald <in.gottwald@gmail.com>
Ingo Krabbe <ikrabbe.ask@gmail.com>
Ingo Oeser <nightlyone@googlemail.com> <nightlyone@gmail.com>
Ioannis Georgoulas <geototti21@hotmail.com>
Irfan Sharif <irfanmahmoudsharif@gmail.com>
Irieda Noboru <irieda@gmail.com>
Isaac Ardis <isaac.ardis@gmail.com>
Isaac Wagner <ibw@isaacwagner.me>
Iskander Sharipov <iskander.sharipov@intel.com> <quasilyte@gmail.com>
Issac Trotts <issactrotts@google.com>
Ivan Babrou <ivan@cloudflare.com>
Ivan Bertona <ivan.bertona@gmail.com>
Ivan Krasin <krasin@golang.org>
Ivan Kutuzov <arbrix@gmail.com>
Ivan Markin <sw@nogoegst.net>
Ivan Moscoso <moscoso@gmail.com>
Ivan Sharavuev <shpiwan@gmail.com>
Ivan Ukhov <ivan.ukhov@gmail.com>
Ivy Evans <ivy@ivyevans.net>
Jaana Burcu Dogan <jbd@google.com> <jbd@golang.org> <burcujdogan@gmail.com>
Jack
Britton <jackxbritton@gmail.com>
Jack Lindamood <jlindamo@justin.tv>
Jacob Baskin <jbaskin@google.com>
Jacob H. Haven <jacob@cloudflare.com>
Jacob Hoffman-Andrews <github@hoffman-andrews.com>
Jae Kwon <jae@tendermint.com>
Jake B <doogie1012@gmail.com>
Jakob Borg <jakob@nym.se>
Jakob Weisblat <jakobw@mit.edu>
Jakub ajka <jcajka@redhat.com>
Jakub Ryszard Czarnowicz <j.czarnowicz@gmail.com>
James Aguilar <jaguilar@google.com>
James Bardin <j.bardin@gmail.com>
James Chacon <jchacon@google.com>
James Clarke <jrtc27@jrtc27.com>
James Cowgill <James.Cowgill@imgtec.com>

James Craig Burley <james-github@burleyarch.com>
James David Chalfant <james.chalfant@gmail.com>
James Fysh <james.fysh@gmail.com>
James Gray <james@james4k.com>
James Hartig <fastest963@gmail.com>
James Lawrence <jljatone@gmail.com>
James Meneghello <rawrz0r@gmail.com>
James Myers <jfmyers9@gmail.com>
James Neve <jamesoneve@gmail.com>
James P. Cooper <jamespcooper@gmail.com>
James Robinson <jamesr@google.com> <jamesr.gatech@gmail.com>
James
Schofield <james@shoeboxapp.com>
James Smith <jrs1995@icloud.com>
James Sweet <james.sweet88@googlemail.com>
James Toy <nil@opensesame.st>
James Treanor <jtreanor3@gmail.com>
James Tucker <raggi@google.com>
James Whitehead <jnwhiteh@gmail.com>
Jamie Beverly <jamie.r.beverly@gmail.com>
Jamie Gennis <jgennis@google.com> <jgennis@gmail.com>
Jamie Kerr <jkerr113@googlemail.com>
Jamie Liu <jameliu@google.com>
Jamie Stackhouse <contin673@gmail.com>
Jamie Turner <jamwt@dropbox.com>
Jamie Wilkinson <jaq@spacepants.org>
Jamil Djadala <djadala@gmail.com>
Jan Berktold <jan@berktold.co>
Jan H. Hosang <jan.hosang@gmail.com>
Jan Kratochvil <jan.kratochvil@redhat.com>
Jan Lehnardt <jan@apache.org>
Jan Mercl <0xjnm@gmail.com> <befelemepeseveze@gmail.com>
Jan Newmarch <jan.newmarch@gmail.com>
Jan Pilzer <jan.pilzer@gmx.de>
Jan Ziak <0xe2.0x9a.0x9b@gmail.com>
Jani Monoses <jani.monoses@ubuntu.com> <jani.monoses@gmail.com>
Jared Culp <jculp14@gmail.com>
Jaroslav Poepko
<jp@webmaster.ms>
Jason A. Donenfeld <Jason@zx2c4.com>
Jason Barnett <jason.w.barnett@gmail.com>
Jason Buberel <jbuberel@google.com>
Jason Chu <jasonchujc@gmail.com>
Jason Del Ponte <delpontej@gmail.com>
Jason Hall <jasonhall@google.com>
Jason Keene <jasonkeene@gmail.com>
Jason LeBrun <jblebrun@gmail.com>
Jason Smale <jsmale@zendesk.com>

Jason Travis <infomaniac7@gmail.com>
Jason Wangsadinata <jwangsadinata@gmail.com>
Javier Kohen <jkohen@google.com>
Javier Segura <javism@gmail.com>
Jay Conrod <jayconrod@google.com>
Jay Taylor <outtatime@gmail.com>
Jay Weisskopf <jay@jayschwa.net>
Jean de Klerk <deklerk@google.com>
Jean-Andr Santoni <jean.andre.santoni@gmail.com>
Jean-Francois Cantin <jfcantin@gmail.com>
Jean-Marc Eurin <jmeurin@google.com>
Jean-Nicolas Moal <jn.moal@gmail.com>
Jed Denlea <jed@fastly.com>
Jeet Parekh <jeetparekh96@gmail.com>
Jeevanandam M <jeeva@myjeeva.com>
Jeff (Zhefu) Jiang <jeffjiang@google.com>
Jeff Craig <jeffcraig@google.com>
Jeff Dupont <jeff.dupont@gmail.com>
Jeff
Hodges <jeff@somethingsimilar.com>
Jeff Johnson <jrjohnson@google.com>
Jeff R. Allen <jra@nella.org> <jeff.allen@gmail.com>
Jeff Sickel <jas@corpus-callosum.com>
Jeff Wendling <jeff@spacemonkey.com>
Jeffrey H <jeffreyh192@gmail.com>
Jelte Fennema <github-tech@jeltef.nl>
Jens Frederich <jfrederich@gmail.com>
Jeremiah Harmsen <jeremiah@google.com>
Jeremy Banks <_@jeremy.ca>
Jeremy Canady <jcanady@gmail.com>
Jeremy Jackins <jeremyjackins@gmail.com>
Jeremy Schlatter <jeremy.schlatter@gmail.com>
Jeroen Bobbeldijk <jerbob92@gmail.com>
Jerrin Shaji George <jerrinsg@gmail.com>
Jess Frazelle <me@jessfraz.com>
Jesse Szwedko <jesse.szwedko@gmail.com>
Jess Espino <jespinog@gmail.com>
Jianing Yu <jnyu@google.com>
Jianqiao Li <jianqiaoli@google.com>
Jihyun Yu <yjh0502@gmail.com>
Jim Cote <jfcote87@gmail.com>
Jim Kingdon <jim@bolt.me>
Jim McGrath <jimmc2@gmail.com>
Jim Minter <jminter@redhat.com>
Jimmy Frasche <soapboxcicero@gmail.com>
Jimmy Zelinskie <jimmyzelinskie@gmail.com>
Jin-wook Jeong <jeweljar@hanmail.net>
Jingcheng

Zhang <diogin@gmail.com>
Jingguo Yao <yaojingguo@gmail.com>
Jiong Du <londevil@gmail.com>
Jirka Dank <dnk@mail.muni.cz>
Jiulong Wang <jiulongw@gmail.com>
Joakim Sernbrant <serbaut@gmail.com>
Joe Bowbeer <joe.bowbeer@gmail.com>
Joe Cortopassi <joe@joecortopassi.com>
Joe Farrell <joe2farrell@gmail.com>
Joe Harrison <joebuzzers@gmail.com>
Joe Henke <joed.henke@gmail.com>
Joe Kyo <xunianzu@gmail.com>
Joe Poirier <jdpoirier@gmail.com>
Joe Richey <joerichey@google.com>
Joe Shaw <joe@joeshaw.org>
Joe Sylve <joe.sylve@gmail.com>
Joe Tsai <joetsai@digital-static.net>
Joel Sing <joel@sing.id.au> <jsing@google.com>
Jol Stemmer <jstemmer@google.com>
Joel Stemmer <stemmertech@gmail.com>
Joey Geiger <jgeiger@users.noreply.github.com>
Johan Brandhorst <johan.brandhorst@gmail.com>
Johan Euphrosine <propy@google.com>
Johan Sageryd <j@1616.se>
John Asmuth <jasmuth@gmail.com>
John Beisley <huin@google.com>
John C Barstow <jbowtie@amathaine.com>
John DeNero <denero@google.com>
John
Dethridge <jcd@golang.org>
John Gibb <johngibb@gmail.com>
John Gilik <john@jgilik.com>
John Graham-Cumming <jgc@jgc.org> <jgrahamc@gmail.com>
John Howard Palevich <jack.palevich@gmail.com>
John Jeffery <jjeffery@sp.com.au>
John Jenkins <twodopeshaggy@gmail.com>
John Leidegren <john.leidegren@gmail.com>
John Newlin <jnewlin@google.com>
John Potocny <johnp@vividcortex.com>
John R. Lenton <jlenton@gmail.com>
John Schnake <schnake.john@gmail.com>
John Shahid <jvshahid@gmail.com>
John Tuley <john@tuley.org>
Johnny Luo <johnnyluo1980@gmail.com>
Jon Chen <jchen@justin.tv>
Jonas Bernoulli <jonas@bernoul.li>
Jonathan Allie <jonallie@google.com>
Jonathan Amsterdam <jba@google.com>

Jonathan Boulle <jonathanboulle@gmail.com>
Jonathan Chen <dijonkitchen@users.noreply.github.com>
Jonathan Feinberg <feinberg@google.com>
Jonathan Gold <jgold.bg@gmail.com>
Jonathan Hseu <jhseu@google.com>
Jonathan Mark <jhmark@xenops.com> <jhmark000@gmail.com>
Jonathan Nieder <jrn@google.com>
Jonathan Pentecost
<pentecostjonathan@gmail.com>
Jonathan Pittman <jmpittman@google.com> <jonathan.mark.pittman@gmail.com>
Jonathan Rudenberg <jonathan@titanous.com>
Jonathan Stacks <jonstacks13@gmail.com>
Jonathan Wills <runningwild@gmail.com>
Jongmin Kim <atomaths@gmail.com>
Joonas Kuorilehto <joneskoo@derbian.fi>
Joop Kiefte <ikojba@gmail.com> <joop@kiefte.net>
Jordan Krage <jmank88@gmail.com>
Jordan Lewis <jordanthelewis@gmail.com>
Jordan Rhee <jordanrh@microsoft.com>
Jos Visser <josv@google.com>
Jose Luis Vzquez Gonzlez <josvazg@gmail.com>
Joseph Bonneau <jcb@google.com>
Joseph Holsten <joseph@josephholsten.com>
Josh Bleecher Snyder <josharian@gmail.com>
Josh Chorlton <jchorlton@gmail.com>
Josh Deprez <josh.deprez@gmail.com>
Josh Goebel <dreamer3@gmail.com>
Josh Hoak <jhoak@google.com>
Josh Holland <jrh@joshh.co.uk>
Josh Roppo <joshroppo@gmail.com>
Josh Varga <josh.varga@gmail.com>
Joshua Boelter <joshua.boelter@intel.com>
Joshua Chase <jcjosuachase@gmail.com>
Joshua Rubin <joshua@rubixconsulting.com>
Josselin
Costanzi <josselin@costanzi.fr>
Jostein Stuhaug <js@solidsystem.no>
JP Sugarbroad <jpsugar@google.com>
JT Olds <jtolds@xnet5.com>
Juan Carlos <juanjcsr@gmail.com>
Juan Pablo Civile <elementohb@gmail.com>
Jude Pereira <judebpereira@gmail.com>
Jukka-Pekka Kekkonen <karatepekka@gmail.com>
Julia Hansbrough <flowerhack@google.com>
Julian Kornberger <jk+github@digineo.de>
Julian Pastarmov <pastarmovj@google.com>
Julian Phillips <julian@quantumfyre.co.uk>
Julie Qiu <julie@golang.org>

Julien Kauffmann <julien.kauffmann@freelan.org>
Julien Salleyron <julien.salleyron@gmail.com>
Julien Schmidt <google@julienschmidt.com>
Julio Montes <julio.montes@intel.com>
Junda Liu <junda@celer.network>
Jungho Ahn <jhahn@google.com>
Junya Hayashi <ledmonster@gmail.com>
Jure Ham <jure.ham@zemanta.com>
Justin Gracenin <jgracenin@gmail.com>
Justin Nu <nuss.justin@gmail.com>
Justyn Temme <justyntemme@gmail.com>
Kai Backman <kaib@golang.org>
Kai Trukenmller <ktye78@gmail.com>
Kale Blankenship <kale@lemnisis.com>
Kaleb
Elwert <kelwert@atlassian.com>
Kamal Aboul-Hosn <aboulhosn@google.com>
Kamil Chmielewski <kamil.chm@gmail.com>
Kamil Kisiel <kamil@kamilkisiel.net> <kamil.kisiel@gmail.com>
Kamil Rytarowski <krytarowski@users.noreply.github.com>
Kang Hu <hukangustc@gmail.com>
Karan Dhiman <karandhi@ca.ibm.com>
Karel Pazdera <pazderak@gmail.com>
Karoly Negyesi <chx1975@gmail.com>
Karsten Khler <karsten.koehler95@gmail.com>
Kashav Madan <kshvmdn@gmail.com>
Kate Manson <kate.manson@izettle.com>
Katie Hockman <katie@golang.org>
Kato Kazuyoshi <kato.kazuyoshi@gmail.com>
Katrina Owen <katrina.owen@gmail.com>
Kaviraj Kanagaraj <kavirajkanagaraj@gmail.com>
Kay Zhu <kayzhu@google.com>
Kazuhiro Sera <seratch@gmail.com>
KB Sriram <kbsriram@google.com>
Keegan Carruthers-Smith <keegan.csmith@gmail.com>
Kei Son <hey.calmndown@gmail.com>
Keiji Yoshida <keijiyoshida.mail@gmail.com>
Keith Ball <inflatablewoman@gmail.com>
Keith Randall <chr@golang.org>
Keith Rarick <kr@xph.us>
Kelsey Hightower <kelsey.hightower@gmail.com>
Kelvin
Foo Chuan Lyi <vmirage@gmail.com>
Ken Friedenbach <kenliz@cruzio.com>
Ken Rockot <ken@oz.gs> <ken.rockot@gmail.com>
Ken Sedgwick <ken@bonsai.com>
Ken Thompson <ken@golang.org>
Kenji Kaneda <kenji.kaneda@gmail.com>

Kenji Yano <kenji.yano@gmail.com>
Kenneth Shaw <kenshaw@gmail.com>
Kenny Grant <kennygrant@gmail.com>
Kevin Ballard <kevin@sb.org>
Kevin Burke <kev@inburke.com>
Kevin Kirsche <kev.kirsche@gmail.com>
Kevin Klues <klueska@gmail.com> <klueska@google.com>
Kevin Malachowski <chowski@google.com>
Kevin Ruffin <kruffin@gmail.com>
Kevin Vu <kevin.m.vu@gmail.com>
Kevin Zita <bleedgreenandgold@gmail.com>
Kieran Colford <kieran@kcolford.com>
Kim Shrier <kshrier@racktopsystems.com>
Kim Yongbin <kybinz@gmail.com>
Kir Kolyshkin <kolyshkin@gmail.com>
Kirill Smelkov <kirr@nexedi.com>
Kirk Han <kirk91.han@gmail.com>
Kirklin McDonald <kirklin.mcdonald@gmail.com>
Klaus Post <klauspost@gmail.com>
Kodie Goodwin <kodiegoodwin@gmail.com>
Koichi Shiraishi <zchee.io@gmail.com>
Koki
Ide <niconegoto@yahoo.co.jp>
Komu Wairagu <komuw05@gmail.com>
Konstantin <konstantin8105@gmail.com>
Konstantin Shaposhnikov <k.shaposhnikov@gmail.com>
Kris Kwiatkowski <kris@cloudflare.com>
Kris Nova <kris@nivenly.com>
Kris Rousey <krousey@google.com>
Kristopher Watts <traetox@gmail.com>
Kun Li <likunarmstrong@gmail.com>
Kunpei Sakai <namusyaka@gmail.com>
Kuntal Majumder <hellozee@disroot.org>
Kyle Consalus <consalus@gmail.com>
Kyle Isom <kyle@gokyle.net>
Kyle Jones <kyle@kyledj.com>
Kyle Lemons <kyle@kylelemons.net> <kevlar@google.com>
Kyle Shannon <kyle@pobox.com>
Kyle Spiers <eiais@google.com>
Kyle Wood <kyle@kylewood.cc>
Kyohei Kadota <lufia@lufia.org>
Kyrylo Silin <silin@kyrylo.org>
L Campbell <unpantso@gmail.com>
Lai Jiangshan <eag0628@gmail.com>
Lajos Papp <lalyos@yahoo.com>
Lakshay Garg <lakshay.garg.1996@gmail.com>
Lann Martin <lannm@google.com>
Lanre Adelowo <yo@lanre.wtf>

Larry Clapp <larry@theclapp.org>
Larry Hosken <lahosken@golang.org>
Lars Jeppesen <jeppesen.lars@gmail.com>
Lars
Lehtonen <lars.lehtonen@gmail.com>
Lars Wiegman <lars@namsral.com>
Larz Conwell <larzconwell@gmail.com>
Laurent Voisin <lpvoisin@gmail.com>
Laurie Clark-Michalek <laurie@qubit.com>
LE Manh Cuong <cuong.manhle.vn@gmail.com>
Lee Hinman <hinman@gmail.com>
Lee Packham <lpackham@gmail.com>
Lehner Florian <dev@der-flo.net>
Leigh McCulloch <leighmcc@gmail.com>
Leo Antunes <leo@costela.net>
Leo Rudberg <ljr@google.com>
Leon Klingele <git@leonklingele.de>
Leonel Quinteros <leonel.quinteros@gmail.com>
Lev Shamardin <shamardin@gmail.com>
Lewin Bormann <lewin.bormann@gmail.com>
Lion Yang <lion@aosc.xyz>
Lloyd Dewolf <foolswisdom@gmail.com>
Lorenz Bauer <lmb@cloudflare.com>
Lorenzo Masini <rugginoso@develer.com>
Lorenzo Stoakes <lstoakes@gmail.com>
Louis Kruger <louisk@google.com>
Luan Santos <cfcluan@gmail.com>
Lubomir I. Ivanov <neolit123@gmail.com>
Luca Bruno <luca.bruno@coreos.com>
Luca Greco <luca.greco@alcacoop.it>
Lucas Bremgartner <lucas.bremgartner@gmail.com>
Lucas Clemente
<lclemente@google.com>
Lucien Stuker <lucien.stuker@gmail.com>
Lucio De Re <lucio.dere@gmail.com>
Ludi Rehak <ludi317@gmail.com>
Luigi Riefolo <luigi.riefolo@gmail.com>
Luit van Drongelen <luitvd@gmail.com>
Luka Zakrajek <tr00.g33k@gmail.com>
Lukasz Milewski <lmmilewski@gmail.com>
Luke Curley <qpingu@gmail.com>
Luke Granger-Brown <git@lukegb.com>
Luna Duclos <luna.duclos@palmstonegames.com>
Luuk van Dijk <lvd@golang.org> <lvd@google.com>
Lyle Franklin <lylejfranklin@gmail.com>
Lynn Boger <laboger@linux.vnet.ibm.com>
Ma Peiqi <mapeiqi2017@gmail.com>
Maarten Bezemer <maarten.bezemer@gmail.com>

Maciej Dbski <maciejd@google.com>
Magnus Hiie <magnus.hiie@gmail.com>
Maicon Costa <maiconscosta@gmail.com>
Mak Kolybabi <mak@kolybabi.com>
Maksym Trykur <maksym.trykur@gmail.com>
Mal Curtis <mal@mal.co.nz>
Manfred Touron <m@42.am>
Manigandan Dharmalingam <manigandan.jeff@gmail.com>
Manish Goregaokar <manishmail@gmail.com>
Manoj Dayaram <platform-dev@moovweb.com> <manoj.dayaram@moovweb.com>
Mansour
Rahimi <rahimi.mnr@gmail.com>
Manu Garg <manugarg@google.com>
Manu S Ajith <neo@codingarena.in>
Manuel Mendez <mmendez534@gmail.com>
Marc Weistroff <marc@weistroff.net>
Marc-Antoine Ruel <maruel@chromium.org>
Marcel Edmund Franke <marcel.edmund.franke@gmail.com>
Marcel van Lohuizen <mpvl@golang.org>
Marcelo Cantos <marcelo.cantos@gmail.com>
Marcelo E. Magallon <marcelo.magallon@gmail.com>
Marco Hennings <marco.hennings@freiheit.com>
Marcus Willock <crazcalm@gmail.com>
Marga Manterola <marga@google.com>
Marin Bai <marin.basic02@gmail.com>
Mario Arranz <marioarranzr@gmail.com>
Marius Nuennerich <mnu@google.com>
Mark Adams <mark@markadams.me>
Mark Bucciarelli <mkbucc@gmail.com>
Mark Harrison <marhar@google.com>
Mark Percival <m@mdp.im>
Mark Pulford <mark@kyne.com.au>
Mark Rushakoff <mark.rushakoff@gmail.com>
Mark Ryan <mark.d.ryan@intel.com>
Mark Severson <miquella@gmail.com>
Mark Theunissen <mark.theunissen@gmail.com>
Mark Wolfe <mark@wolfe.id.au>
Mark Zavislak <zavislak@google.com>
Marko
Juhani Silokunnas <marko.silokunnas@gmail.com>
Marko Kevac <marko@kevac.org>
Marko Mikulicic <mkm@google.com>
Marko Mudrinic <mudrinic.mare@gmail.com>
Marko Tiikkaja <marko@joh.to>
Markus Duft <markus.duft@salomon.at>
Markus Sonderegger <marraison@gmail.com>
Markus Zimmermann <zimmski@gmail.com>
Marten Seemann <martenseemann@gmail.com>

Martin Bertschler <mbertschler@gmail.com>
Martin Garton <garton@gmail.com>
Martin Habbecke <marhab@google.com>
Martin Hamrle <martin.hamrle@gmail.com>
Martin Hoefling <martin.hoefling@gmx.de>
Martin Kreichgauer <martinkr@google.com>
Martin Kunc <martinkunc@users.noreply.github.com>
Martin Lindhe <martin.j.lindhe@gmail.com>
Martin Mohrmann <moehrmann@google.com> <martisch@uos.de>
Martin Neubauer <m.ne@gmx.net>
Martin Olsen <github.com@martinolsen.net>
Martin Olsson <martin@minimum.se>
Martin Probst <martin@probst.io>
Martin Sucha <anty.sk+git@gmail.com>
Martin Tournoij <martin@arp242.net>
Martins Sipenko <martins.sipenko@gmail.com>
Martynas Budrinas
<mabu@google.com>
Marvin Stenger <marvin.stenger94@gmail.com>
Marwan Sulaiman <marwan.sulaiman@work.co>
Maryan Hratson <gmarik@gmail.com>
Masahiro Furudate <masahiro.furudate@gmail.com>
Masahiro Wakame <vvakame@gmail.com>
Masaki Yoshida <yoshida.masaki@gmail.com>
Mat Byczkowski <mbyczkowski@gmail.com>
Mat Ryer <thatmatryer@gmail.com>
Mt Gulys <mgulyas86@gmail.com>
Matej Bao <matejbaco@gmail.com>
Mateus Amin <mateus.amin@gmail.com>
Mateusz Czapliski <czapkofan@gmail.com>
Mathias Beke <git@denbeke.be>
Mathias Hall-Andersen <mathias@hall-andersen.dk>
Mathias Leppich <mleppich@muqu.de>
Mathieu Lonjaret <mathieu.lonjaret@gmail.com>
Mats Lidell <mats.lidell@cag.se> <mats.lidell@gmail.com>
Matt Aimonetti <mattaimonetti@gmail.com>
Matt Blair <me@matthewblair.net>
Matt Bostock <matt@mattbostock.com>
Matt Brown <mbrown@google.com>
Matt Dee <mdee@hioscar.com>
Matt Drollette <matt@drollette.com>
Matt Harden <matt.harden@gmail.com>
Matt Jibson <matt.jibson@gmail.com>
Matt Joiner <anacrolix@gmail.com>
Matt
Jones <mrjones@google.com>
Matt Juran <thepciet@gmail.com>
Matt Layher <mdlayher@gmail.com>

Matt Reiferson <mreiferson@gmail.com>
Matt Robenolt <matt@ydekproductions.com>
Matt Strong <mstrong1341@gmail.com>
Matt T. Proud <matt.proud@gmail.com>
Matt Williams <gh@mattyw.net> <mattyjwilliams@gmail.com>
Matthew Brennan <matty.brennan@gmail.com>
Matthew Broberg <matthewbbroberg@gmail.com>
Matthew Cottingham <mattcottingham@gmail.com>
Matthew Dempsky <mdempsky@google.com>
Matthew Denton <mdenton@skyportsystems.com>
Matthew Holt <Matthew.Holt+git@gmail.com>
Matthew Horsnell <matthew.horsnell@gmail.com>
Matthew Waters <mwwaters@gmail.com>
Matthieu Hauglustaine <matt.hauglustaine@gmail.com>
Matthieu Olivier <olivier.matthieu@gmail.com>
Matthijs Kooijman <matthijs@stdn.nl>
Max Riveiro <kavu13@gmail.com>
Max Schmitt <max@schmitt.mx>
Max Ushakov <ushmax@gmail.com>
Maxim Khitrov <max@mxcrypt.com>
Maxim Pimenov <mpimenov@google.com>
Maxim Ushakov <ushakov@google.com>
Maxime de Roucy <maxime.deroucy@gmail.com>
Mximo
Cuadros Ortiz <mcuadros@gmail.com>
Maxwell Krohn <themax@gmail.com>
Maya Rashish <maya@NetBSD.org>
Mayank Kumar <krmayankk@gmail.com>
Meir Fischer <meirfischer@gmail.com>
Meng Zhuo <mengzhuo1203@gmail.com>
Mhd Sulhan <m.shulhan@gmail.com>
Micah Stetson <micah.stetson@gmail.com>
Michael Anthony Knyszek <mknyszek@google.com>
Michael Brandenburg <mbrandenburg@bolste.com>
Michael Chaten <mchaten@gmail.com>
Michael Darakananda <pongad@google.com>
Michael Dorner <mail@michaeldorner.de>
Michael Edwards <medwards@walledcity.ca>
Michael Elkins <michael.elkins@gmail.com>
Michael Ellis <micellis@justin.tv>
Michael Fraenkel <michael.fraenkel@gmail.com>
Michael Fromberger <michael.j.fromberger@gmail.com>
Michael Gehring <mg@ebfe.org> <gnirheg.leahcim@gmail.com>
Michael Henderson <mdhender@users.noreply.github.com>
Michael Hendricks <michael@ndrix.org>
Michael Hoisie <hoisie@gmail.com>
Michael Hudson-Doyle <michael.hudson@linaro.org>
Michael Kasch <michael.kasch@gmail.com>

Michael
Kufel <golang@c.michael-kaeufl.de>
Michael Kelly <mjk@google.com>
Michael Lewis <mikelikespie@gmail.com>
Michael MacInnis <Michael.P.MacInnis@gmail.com>
Michael Marineau <michael.marineau@coreos.com>
Michael Matloob <matloob@google.com>
Michael McConville <mommcconville@gmail.com>
Michael McGreevy <mcmcgreevy@golang.org>
Michael McLoughlin <mmcloughlin@gmail.com>
Michael Munday <mike.munday@ibm.com>
Michael Pearson <mipearson@gmail.com>
Michael Piatek <piatek@google.com>
Michael Pratt <mpratt@google.com>
Michael Schaller <michael@5challer.de>
Michael Schurter <michael.schurter@gmail.com>
Michael Shields <mshields@google.com>
Michael Stapelberg <michael@stapelberg.de> <mstplbrg@googlemail.com>
Michael Steinert <mike.steinert@gmail.com>
Michael T. Jones <mtj@google.com> <michael.jones@gmail.com>
Michael Teichgraber <mteichgraeber@gmx.de> <mt4swm@googlemail.com>
Michael Traver <mtraver@google.com>
Michael Vetter <g.bluehut@gmail.com>
Michal Bohuslvek <mbohuslvek@gmail.com>
Michal
Cierniak <cierniak@google.com>
Micha Derkacz <ziutek@lnet.pl>
Michal Franc <lam.michal.franc@gmail.com>
Michal Pristas <michal.pristas@gmail.com>
Michal Rostecki <mrostecki@suse.de>
Michalis Kargakis <michaliskargakis@gmail.com>
Michel Lespinasse <>walken@google.com>
Miek Gieben <miek@miek.nl> <remigius.gieben@gmail.com>
Miguel Mendez <stxmendez@gmail.com>
Miguel Molina <hi@mvader.me>
Mihai Borobocea <MihaiBorobocea@gmail.com>
Mihai Todor <todormihai@gmail.com>
Mihail Minaev <minaev.mike@gmail.com>
Mikael Tillenius <mikti42@gmail.com>
Mike Andrews <mra@xoba.com>
Mike Appleby <mike@app.leby.org>
Mike Danese <mikedanese@google.com>
Mike Houston <mike@kothar.net>
Mike Kabischev <kabischev@gmail.com>
Mike Rosset <mike.rosset@gmail.com>
Mike Samuel <mikesamuel@gmail.com>
Mike Solomon <msolo@gmail.com>
Mike Strosaker <strosake@us.ibm.com>

Mike Tsao <mike@sowbug.com>
Mike Wiacek <mjwiacek@google.com>
Mikhail Gusarov <dottedmag@dottedmag.net>
Mikhail Panchenko <m@mihasya.com>
Miki Tebeka <miki.tebeka@gmail.com>
Mikio
Hara <mikioh.mikioh@gmail.com>
Mikkel Krautz <mikkel@krautz.dk> <krautz@gmail.com>
Mikoaj Baranowski <mikolajb@gmail.com>
Milan Knezevic <milan.knezevic@mips.com>
Milutin Jovanovic <jovanovic.milutin@gmail.com>
MinJae Kwon <mingrammer@gmail.com>
Miquel Sabat Sol <mikisabate@gmail.com>
Miroslav Genov <mgenov@gmail.com>
Misty De Meo <mistydemeo@gmail.com>
Mohit Agarwal <mohit@sdf.org>
Mohit kumar Bajoria <mohitbajo36@gmail.com>
Momchil Velikov <momchil.velikov@gmail.com>
Monis Khan <mkhan@redhat.com>
Monty Taylor <mordred@inaugust.com>
Moriyoshi Koizumi <mozo@mozo.jp>
Morten Siebuhr <sbhr@sbhr.dk>
Mshe van der Sterre <moshevds@gmail.com>
Mostyn Bramley-Moore <mostyn@antipode.se>
Mrunal Patel <mrunalp@gmail.com>
Muhammad Falak R Wani <falakreyaz@gmail.com>
Muhammed Uluyol <uluyol0@gmail.com>
Mura Li <mura_li@castech.com.tw>
Nan Deng <monnand@gmail.com>
Naoki Kanatani <k12naoki@gmail.com>
Nate Wilkinson <nathanwilk7@gmail.com>
Nathan Cantelmo <n.cantelmo@gmail.com>
Nathan
Caza <mastercactapus@gmail.com>
Nathan Humphreys <nkhumphreys@gmail.com>
Nathan John Youngman <nj@nathany.com>
Nathan Otterness <otterness@cs.unc.edu>
Nathan P Finch <nate.finch@gmail.com>
Nathan VanBenschoten <nvanbenschoten@gmail.com>
Nathan Youngman <git@nathany.com>
Nathan(yinian) Hu <nathanhu@google.com>
Nathaniel Cook <nvcook42@gmail.com>
Naveen Kumar Sangi <naveenkumarsangi@protonmail.com>
Neelesh Chandola <neelesh.c98@gmail.com>
Neil Lyons <nwjlyons@googlemail.com>
Neuman Vong <neuman.vong@gmail.com>
Neven Sajko <nsajko@gmail.com>
Nevins Bartolomeo <nevins.bartolomeo@gmail.com>

Niall Sheridan <nsheridan@gmail.com>
Nic Day <nic.day@me.com>
Nicholas Katsaros <nick@nickkatsaros.com>
Nicholas Maniscalco <nicholas@maniscalco.com>
Nicholas Ng <nickng@nickng.io>
Nicholas Presta <nick@nickpresta.ca> <nick1presta@gmail.com>
Nicholas Sullivan <nicholas.sullivan@gmail.com>
Nicholas Waples <nwaples@gmail.com>
Nick Cooper <nmvc@google.com>
Nick Craig-Wood <nick@craig-wood.com> <nickcw@gmail.com>
Nick
Harper <nharper@google.com>
Nick Kubala <nkubala@google.com>
Nick Leli <nicholasleli@gmail.com>
Nick Miyake <nmiyake@users.noreply.github.com>
Nick Patavalis <nick.patavalis@gmail.com>
Nick Petroni <npetroni@cs.umd.edu>
Nick Robinson <nrobinson13@gmail.com>
Nick Smolin <nick27surgut@gmail.com>
Nicolas BRULEZ <n.brulez@gmail.com>
Nicolas Kaiser <nikai@nikai.net>
Nicolas Owens <mischief@offblast.org>
Nicolas S. Dade <nic.dade@gmail.com>
Niek Sanders <niek.sanders@gmail.com>
Niels Widger <niels.widger@gmail.com>
Nigel Kerr <nigel.kerr@gmail.com>
Nigel Tao <nigeltao@golang.org>
Nik Nyby <nnyby@columbia.edu>
Nikhil Benesch <nikhil.benesch@gmail.com>
Niklas Schnelle <niklas.schnelle@gmail.com>
Niko Dziemba <niko@dziemba.com>
Nikolay Turpitko <nikolay@turpitko.com>
Nils Larsgrd <nilsmagnus@gmail.com>
Niranjan Godbole <niranjan8192@gmail.com>
Nishanth Shanmugham <nishanth.gerrard@gmail.com>
Noah Campbell <noahcampbell@gmail.com>
Noble Johnson <noblepoly@gmail.com>
Nodir Turakulov
<nodir@google.com>
Noel Georgi <git@frezbo.com>
Norberto Lopes <nlopes.ml@gmail.com>
Odin Ugedal <odin@ugedal.com>
Oleg Bulatov <dimage@yandex-team.ru>
Oleg Vakheta <helginet@gmail.com>
Oleku Konko <oleku.konko@gmail.com>
Oling Cat <olingcat@gmail.com>
Oliver Hookins <ohookins@gmail.com>
Oliver Stenbom <ostenbom@pivotal.io>

Oliver Tonnhofer <olt@bogosoftware.com>
Olivier Antoine <olivier.antoine@gmail.com>
Olivier Duperray <duperray.olivier@gmail.com>
Olivier Poitrey <rs@dailymotion.com>
Olivier Saingre <osaingre@gmail.com>
Omar Jarjur <ojarjur@google.com>
Oryan Moshe <iamoryanmoshe@gmail.com>
Osamu TONOMORI <osamingo@gmail.com>
zgr Kesim <oec-go@kesim.org>
Pablo Lalloni <plalloni@gmail.com>
Pablo Rozas Larraondo <pablo.larraondo@anu.edu.au>
Pablo Santiago Blum de Aguiar <scorpus@gmail.com>
Padraig Kitterick <padraigkitterick@gmail.com>
Pallat Anchaleechamaikorn <yod.pallat@gmail.com>
Paolo Giarrusso <p.giarrusso@gmail.com>
Paolo Martini <mrtnpaolo@gmail.com>
Parker Moore <parkrmoore@gmail.com>
Parminder
Singh <parmsingh101@gmail.com>
Pascal S. de Kloe <pascal@quies.net>
Pat Moroney <pat@pat.email>
Patrick Crosby <patrick@stathat.com>
Patrick Gavlin <pgavlin@gmail.com>
Patrick Higgins <patrick.allen.higgins@gmail.com>
Patrick Lee <pattyshack101@gmail.com>
Patrick Mzard <patrick@mezard.eu>
Patrick Mylund Nielsen <patrick@patrickmn.com>
Patrick Pelletier <pp.pelletier@gmail.com>
Patrick Riley <pfr@google.com>
Patrick Smith <pat42smith@gmail.com>
Paul A Querna <paul.querna@gmail.com>
Paul Borman <borman@google.com>
Paul Boyd <boyd.paul2@gmail.com>
Paul Chang <paulchang@google.com>
Paul Hammond <paul@paulhammond.org>
Paul Hankin <paulhankin@google.com>
Paul Jolly <paul@myitcv.org.uk>
Paul Lalonde <paul.a.lalonde@gmail.com>
Paul M Furley <paul@paulfurley.com>
Paul Marks <pmarks@google.com>
Paul Meyer <paul.meyer@microsoft.com>
Paul Nasrat <pnasrat@google.com>
Paul PISCUC <paul.piscuc@gmail.com>
Paul Querna <pquerna@apache.org>
Paul Rosania <paul.rosania@gmail.com>
Paul Ruest
<pruest@gmail.com>
Paul Sbarra <Sbarra.Paul@gmail.com>

Paul Smith <paulsmith@pobox.com> <paulsmith@gmail.com>
Paul Tyng <paul@paultyng.net>
Paul van Brouwershaven <paul@vanbrouwershaven.com>
Paul Wankadia <junyer@google.com>
Paulo Casaretto <pcasaretto@gmail.com>
Paulo Flabiano Smorigo <pfsmorigo@linux.vnet.ibm.com>
Pavel Paulau <pavel.paulau@gmail.com>
Pavel Zinovkin <pavel.zinovkin@gmail.com>
Pavlo Sumkin <ymkins@gmail.com>
Pawel Knap <pawelknap88@gmail.com>
Pawel Szczur <filemon@google.com>
Percy Wegmann <ox.to.a.cart@gmail.com>
Perry Abbott <perry.j.abbott@gmail.com>
Petar Maymoukov <petarm@gmail.com>
Peter Armitage <peter.armitage@gmail.com>
Peter Bourgon <peter@bourgon.org>
Peter Collingbourne <pcc@google.com>
Peter Conerly <pconerly@gmail.com>
Peter Dotchev <dotchev@gmail.com>
Peter Froehlich <peter.hans.froehlich@gmail.com>
Peter Gonda <pgonda@google.com>
Peter Hoyes <pahoyes@gmail.com>
Peter Kleiweg <pkleiweg@xs4all.nl>
Peter McKenzie <petermck@google.com>
Peter Moody <pmoody@uber.com>
Peter
Morjan <pmorjan@gmail.com>
Peter Mundy <go.peter.90@gmail.com>
Peter Nguyen <peter@mictis.com>
Pter Surnyi <speter.go1@gmail.com>
Pter Szab <pts@google.com>
Pter Szilgyi <peterke@gmail.com>
Peter Teichman <pteichman@fastly.com>
Peter Tseng <ptseng@squareup.com>
Peter Waldschmidt <peter@waldschmidt.com>
Peter Waller <peter.waller@gmail.com>
Peter Weinberger <pjw@golang.org>
Peter Williams <pwil3058@gmail.com>
Peter Wu <pwu@cloudflare.com>
Peter Zhang <i@ddatsh.com>
Petrica Voicu <pvoicu@paypal.com>
Phil Pearl <philip.j.r.pearl@gmail.com>
Phil Pennock <pdp@golang.org>
Philip Brgesen <philip.borgesen@gmail.com>
Philip Brown <phil@bolthole.com>
Philip Hofer <phofer@umich.edu>
Philip K. Warren <pkwarren@gmail.com>
Philip Nelson <me@pnelson.ca>

Philipp Stephani <phst@google.com>
Pierre Durand <pierredurand@gmail.com>
Pierre Prinetti <pierreprinetti@gmail.com>
Pierre Roullon <pierre.roullon@gmail.com>
Piers <google@hellopiers.pro>
Pieter Droogendijk <pieter@binky.org.uk>
Pietro
Gagliardi <pietro10@mac.com>
Piyush Mishra <piyush@codeitout.com>
Plekhanov Maxim <kishtatix@gmail.com>
Pontus Leitzler <leitzler@gmail.com>
Prasanna Swaminathan <prasanna@mediamath.com>
Prashant Varanasi <prashant@prashantv.com>
Pravendra Singh <hackpravj@gmail.com>
Preetam Jinka <pj@preet.am>
Qais Patankar <qaisjp@gmail.com>
Qiuxuan Zhu <ilsh1022@gmail.com>
Quan Tran <qeed.quan@gmail.com>
Quan Yong Zhai <qyzhai@gmail.com>
Quentin Perez <qperez@ocs.online.net>
Quentin Renard <contact@asticode.com>
Quentin Smith <quentin@golang.org>
Quinn Slack <sqs@sourcegraph.com>
Quinten Yearsley <qyearsley@chromium.org>
Quoc-Viet Nguyen <afelion@gmail.com>
Radek Sohlich <sohlich@gmail.com>
Radu Berinde <radu@cockroachlabs.com>
Rafal Jeczalik <rjeczalik@gmail.com>
Raghavendra Nagaraj <jamdagni86@gmail.com>
Rahul Chaudhry <rahulchaudhry@chromium.org>
Raif S. Naffah <go@naffah-raif.name>
Rajat Goel <rajat.goel2010@gmail.com>
Rajath Agasthya <rajathagasthya@gmail.com>
Rajender Reddy Kompally <rajenderreddykompally@gmail.com>
Ralph
Corderoy <ralph@inputplus.co.uk>
Ramazan AYYILDIZ <rayyildiz@gmail.com>
Ramesh Dharan <dharan@google.com>
Raph Levien <raph@google.com>
Raphael Geronimi <raphael.geronimi@gmail.com>
Raul Silvera <rsilvera@google.com>
Ravil Bikbulatov <weeellz12@gmail.com>
RaviTeja Pothana <ravi.tezu@gmail.com>
Ray Tung <rtung@thoughtworks.com>
Raymond Kazlauskas <raima220@gmail.com>
Rebecca Stambler <rstambler@golang.org>
Reilly Watson <reillywatson@gmail.com>
Reinaldo de Souza Jr <juniorz@gmail.com>

Remi Gillig <remigillig@gmail.com>
Rmy Oudompheng <oudomphe@phare.normalesup.org> <remyoudompheng@gmail.com>
Rens Rikkerink <Ikkerens@users.noreply.github.com>
Rhys Hiltner <rhys@justin.tv>
Ricardo Padilha <ricardospadilha@gmail.com>
Richard Barnes <rlb@ipv.sx>
Richard Crowley <r@rcrowley.org>
Richard Dingwall <rdingwall@gmail.com>
Richard Eric Gavaletz <gavaletz@gmail.com>
Richard Gibson <richard.gibson@gmail.com>
Richard Miller <miller.research@gmail.com>
Richard Musiol
<mail@richard-musiol.de> <neelance@gmail.com>
Rick Arnold <rickarnoldjr@gmail.com>
Rick Hudson <rlh@golang.org>
Rick Sayre <whorfin@gmail.com>
Rijnard van Tonder <rvantonder@gmail.com>
Riku Voipio <riku.voipio@linaro.org>
Risto Jaakko Saarelm <rsaarelm@gmail.com>
Rob Earhart <earhart@google.com>
Rob Norman <rob.norman@infinitycloud.com>
Rob Phoenix <rob@robphoenix.com>
Rob Pike <r@golang.org>
Robert Daniel Kortschak <dan.kortschak@adelaide.edu.au> <dan@kortschak.io>
Robert Dinu <r@varp.se>
Robert Figueiredo <robfig@gmail.com>
Robert Griesemer <gri@golang.org>
Robert Hencke <robert.hencke@gmail.com>
Robert Iannucci <iannucci@google.com>
Robert Obryk <robryk@gmail.com>
Robert Sesek <rsesek@google.com>
Robert Snedegar <roberts@google.com>
Robert Stepanek <robert.stepanek@gmail.com>
Robert-Andr Mauchin <zebob.m@gmail.com>
Roberto Clapis <robclap8@gmail.com>
Roberto Selbach <roberto@selbach.ca>
Robin Eklind <r.eklind.87@gmail.com>
Rodolfo Carvalho <rhcarvalho@gmail.com>
Rodolfo Rodriguez
<rodolfobgibson@gmail.com>
Rodrigo Moraes de Oliveira <rodrigo.moraes@gmail.com>
Rodrigo Rafael Monti Kochenburger <divoxx@gmail.com>
Roger Pau Monn <royger@gmail.com>
Roger Peppe <rogpeppe@gmail.com>
Roland Illig <roland.illig@gmx.de>
Roland Shoemaker <rolandshoemaker@gmail.com>
Roman Budnikov <romanyx90@yandex.ru>
Roman Shchekin <mrqtros@gmail.com>

Ron Hashimoto <mail@h2so5.net>
Ron Minnich <rminnich@gmail.com>
Ross Chater <rdchater@gmail.com>
Ross Light <light@google.com> <rlight2@gmail.com>
Ross Smith II <ross@smithii.com>
Rowan Marshall <rowanajmarshall@gmail.com>
Rowan Worth <sqweek@gmail.com>
Rudi Kramer <rudi.kramer@gmail.com>
Rui Ueyama <ruiu@google.com>
Ruslan Nigmatullin <elessar@dropbox.com>
Russ Cox <rsc@golang.org>
Russell Haering <russellhaering@gmail.com>
Ryan Bagwell <ryanbagwell@outlook.com>
Ryan Barrett <ryanb@google.com>
Ryan Boehning <ryan.boehning@apcera.com>
Ryan Brown <ribldb@google.com>
Ryan Canty <jrcanty@gmail.com>
Ryan Dahl <ry@tinyclouds.org>
Ryan Hitchman
<hitchmanr@gmail.com>
Ryan Lower <rpjlower@gmail.com>
Ryan Roden-Corrent <ryan@rcorre.net>
Ryan Seys <ryan@ryanseys.com>
Ryan Slade <ryanslade@gmail.com>
Ryan Zhang <ryan.zhang@docker.com>
Ryoichi KATO <ryo1kato@gmail.com>
Ryuji Iwata <qt.luigi@gmail.com>
Ryuma Yoshida <ryuma.y1117@gmail.com>
Ryuzo Yamamoto <ryuzo.yamamoto@gmail.com>
S.alar Onur <caglar@10ur.org>
Sabin Mihai Rapan <sabin.rapan@gmail.com>
Sai Cheemalapati <saicheems@google.com>
Sakeven Jiang <jc5930@sina.cn>
Salmon Aljammz <s@0x65.net>
Sam Boyer <tech@samboyer.org>
Sam Ding <samding@ca.ibm.com>
Sam Hug <samuel.b.hug@gmail.com>
Sam Thorogood <thorogood@google.com> <sam.thorogood@gmail.com>
Sam Whited <sam@samwhited.com>
Sameer Ajmani <sameer@golang.org> <ajmani@gmail.com>
Sami Commerot <samic@google.com>
Sami Pnknen <sami.ponkanen@gmail.com>
Samuel Kelemen <SCKelemen@users.noreply.github.com>
Samuel Tan <samueltan@google.com>
Samuele Pedroni <pedronis@lucediaruna.net>
Sanjay Menakuru <balasanjay@gmail.com>
Santhosh Kumar

Tekuri <santhosh.tekuri@gmail.com>
Sarah Adams <shadams@google.com>
Sascha Brawer <sascha@brawer.ch>
Sasha Lionheart <lionhearts@google.com>
Sasha Sobol <sasha@scaledinference.com>
Scott Barron <scott.barron@github.com>
Scott Bell <scott@sctsm.com>
Scott Crunkleton <crunk1@gmail.com>
Scott Ferguson <scottwferg@gmail.com>
Scott Lawrence <bytbox@gmail.com>
Scott Mansfield <smansfield@netflix.com>
Scott Schwartz <scotts@golang.org>
Scott Van Woudenberg <scottvw@google.com>
Sean Burford <sburford@google.com>
Sean Chen <oohcode@gmail.com>
Sean Chittenden <seanc@joyent.com>
Sean Christopherson <sean.j.christopherson@intel.com>
Sean Dolphin <Sean.Dolphin@kpcompass.com>
Sean Harger <sharger@google.com>
Sean Rees <sean@erifax.org>
Sebastiaan van Stijn <github@gone.nl>
Sebastian Schmidt <yath@google.com>
Sebastien Binet <seb.binet@gmail.com>
Sbastien Paolacci <sebastien.paolacci@gmail.com>
Sebastien Williams-Wynn <sebastien@cytora.com>
Seiji Takahashi <timaki.st@gmail.com>
Sergei Skorobogatov
<skorobo@rambler.ru>
Sergey 'SnakE' Gromov <snake.scaly@gmail.com>
Sergey Arseev <sergey.arseev@intel.com>
Sergey Frolov <sfrolov@google.com>
Sergey Lukjanov <me@slukjanov.name>
Sergey Mishin <sergeymishine@gmail.com>
Sergey Mudrik <sergey.mudrik@gmail.com>
Sergey Semin <gray12511@gmail.com>
Sergio Luis O. B. Correia <sergio@correia.cc>
Sergiusz Bazanski <bazanski@gmail.com>
Serhii Aheienko <serhii.aheienko@gmail.com>
Seth Hoenig <seth.a.hoenig@gmail.com>
Seth Vargo <sethvargo@gmail.com>
Shahar Kohanim <skohanim@gmail.com>
Shamil Garatuev <garatuev@gmail.com>
Shane Hansen <shanemhansen@gmail.com>
Shaozhen Ding <dsz0111@gmail.com>
Shaun Dunning <shaun.dunning@uservoice.com>
Shawn Ledbetter <sledbetter@google.com>
Shawn Smith <shawn.p.smith@gmail.com>
Shawn Walker-Salas <shawn.walker@oracle.com>

Shenghou Ma <minux@golang.org> <minux.ma@gmail.com>
Shengyu Zhang <shengyu.zhang@chaitin.com>
Shi Han Ng <shihanng@gmail.com>
Shijie Hao <haormj@gmail.com>
Shinji Tanaka <shinji.tanaka@gmail.com>
Shintaro
Kaneko <kaneshin0120@gmail.com>
Shivakumar GN <shivakumar.gn@gmail.com>
Shivansh Rai <shivansh@freebsd.org>
Shun Fan <sfan@google.com>
Silvan Jegen <s.jegen@gmail.com>
Simon Jefford <simon.jefford@gmail.com>
Simon Rawet <simon@rawet.se>
Simon Thulbourn <simon+github@thulbourn.com>
Simon Whitehead <chemnova@gmail.com>
Sina Siadat <siadat@gmail.com>
Sokolov Yura <funny.falcon@gmail.com>
Song Gao <song@gao.io>
Spencer Nelson <s@spenczar.com>
Spencer Tung <spencertung@google.com>
Spring Mc <heresy.mc@gmail.com>
Srdjan Petrovic <spetrovic@google.com>
Sridhar Venkatakrishnan <sridhar@laddoo.net>
StalkR <stalkr@stalkr.net>
Stan Schwertly <stan@schwertly.com>
Stanislav Afanasev <php.progger@gmail.com>
Steeve Morin <steeve.morin@gmail.com>
Stefan Nilsson <snilsson@nada.kth.se> <trolleriprofessorn@gmail.com>
Stepan Shabalin <neverliberty@gmail.com>
Stephan Renatus <srenatus@chef.io>
Stphane Travostino <stephane.travostino@gmail.com>
Stephen Lewis <stephen@sock.org.uk>
Stephen Lu <steuhs@users.noreply.github.com>
Stephen
Ma <stephenm@golang.org>
Stephen McQuay <stephen@mcquay.me>
Stephen Searles <stephens2424@gmail.com>
Stephen Weinberg <stephen@q5comm.com>
Steve Francia <spf@golang.org>
Steve Gilbert <stevegilbert23@gmail.com>
Steve LoFurno <slofurno@gmail.com>
Steve McCoy <mccoyst@gmail.com>
Steve Newman <snewman@google.com>
Steve Phillips <elimistev@gmail.com>
Steve Streeting <steve@stevestreeting.com>
Steven Buss <sbuss@google.com>
Steven Elliot Harris <seharris@gmail.com>
Steven Erenst <stevenerenst@gmail.com>

Steven Hartland <steven.hartland@multiplay.co.uk>
Steven Littlebrant <imgroxx@gmail.com>
Steven Wilkin <stevenwilkin@gmail.com>
Stuart Jansen <sjansen@buscaluz.org>
Sue Spence <virtuallysue@gmail.com>
Sugu Sougoumarane <ssougou@gmail.com>
Suharsh Sivakumar <suharshs@google.com>
Sukrit Handa <sukrit.handa@utoronto.ca>
Sunny <me@darkowlzz.space>
Suriyaa Sundararuban <suriyaasundararuban@gmail.com>
Suyash <dextrous93@gmail.com>
Suzy Mueller <suzmue@golang.org>
Sven
Almgren <sven@tras.se>
Sven Blumenstein <svbl@google.com>
Sylvain Zimmer <sylvain@sylvainzimmer.com>
Syohei YOSHIDA <syohex@gmail.com>
Szabolcs Nagy <nsz@port70.net>
Taavi Kivisik <taavi.kivisik@gmail.com>
Tad Fisher <tadfisher@gmail.com>
Tad Glines <tad.glines@gmail.com>
Tadas Valiukas <tadovas@gmail.com>
Taesu Pyo <pyotaesu@gmail.com>
Taj Khattri <taj.khattri@gmail.com>
Takashi Matsuo <tmatsuo@google.com>
Takayoshi Nishida <takayoshi.nishida@gmail.com>
Takeshi YAMANASHI <9.nashi@gmail.com>
Takuto Ikuta <tikuta@google.com>
Takuya Ueda <uedatakuya@gmail.com>
Tal Shprecher <tshprecher@gmail.com>
Tamir Duberstein <tamird@gmail.com>
Tao Shen <shentaoskyking@gmail.com>
Tao Wang <twang2218@gmail.com>
Tarmigan Casebolt <tarmigan@gmail.com>
Taro Aoki <aizu.s1230022@gmail.com>
Taru Karttunen <taruti@taruti.net>
Tatsuhiko Tsujikawa <tatsuhiko.t@gmail.com>
Tatsuya Kaneko <m.ddotx.f@gmail.com>
Taufiq Rahman <taufiqrx8@gmail.com>
Teague Cole <tnc1443@gmail.com>
Ted Kornish <golang@tedkornish.com>
Tejasvi
Nareddy <tejunareddy@gmail.com>
Terin Stock <terinjokes@gmail.com>
Terrel Shumway <gopher@shumway.us>
Tetsuo Kiso <tetsuokiso9@gmail.com>
Than McIntosh <thanm@google.com>
Thanabodee Charoenpiriyakij <wingyminus@gmail.com>

Thanatat Tamtan <acoshift@gmail.com>
Thiago Avelino <t@avelino.xxx>
Thiago Fransosi Farina <thiago.farina@gmail.com> <tfarina@chromium.org>
Thomas Alan Copeland <talan.copeland@gmail.com>
Thomas Bonfort <thomas.bonfort@gmail.com>
Thomas Bouldin <inlined@google.com>
Thomas Bruyelle <thomas.bruyelle@gmail.com>
Thomas Bushnell, BSG <tbushnell@google.com>
Thomas de Zeeuw <thomasdezeeuw@gmail.com>
Thomas Desrosiers <thomasdesr@gmail.com>
Thomas Habets <habets@google.com>
Thomas Kappler <tkappler@gmail.com>
Thomas Meson <zllak@hycik.org>
Thomas Wanielista <tomwans@gmail.com>
Thorben Krueger <thorben.krueger@gmail.com>
Thordur Bjornsson <thorduri@secnorth.net>
Tiago Queiroz <contato@tiago.eti.br>
Tilman Dilo <tilman.dilo@gmail.com>
Tim Cooijmans <timcoojmans@gmail.com>
Tim
Cooper <tim.cooper@layeh.com>
Tim Ebringer <tim.ebringer@gmail.com>
Tim Heckman <t@heckman.io>
Tim Henderson <tim.tadh@gmail.com>
Tim Hockin <thockin@google.com>
Tim Swast <swast@google.com>
Tim Wright <tenortim@gmail.com>
Tim Xu <xiaoxubei@gmail.com>
Timo Savola <timo.savola@gmail.com>
Timo Truys <alkaloid.btx@gmail.com>
Timothy Studd <tim@timstudd.com>
Tipp Moseley <tipp@google.com>
Tobias Assarsson <tobias.assarsson@gmail.com>
Tobias Columbus <tobias.columbus@gmail.com> <tobias.columbus@googlemail.com>
Tobias Klauser <tklauser@distanz.ch>
Toby Burrell <kurin@google.com>
Todd Neal <todd@tneal.org>
Todd Wang <toddwang@gmail.com>
Tom Bergan <tombergan@google.com>
Tom Heng <zhm20070928@gmail.com>
Tom Lanyon <tomlanyon@google.com>
Tom Levy <tomlevy93@gmail.com>
Tom Limoncelli <tal@whatexit.org>
Tom Linfoord <tomlinfoord@gmail.com>
Tom Payne <twpayne@gmail.com>
Tom Szymanski <tgs@google.com>
Tom Thorogood <me+google@tomthorogood.co.uk>
Tom Wilkie <tom@weave.works>

Tommy Schaefer
<tommy.schaefer@teecom.com>
Tomoya Ishizaki <zaq1tomo@gmail.com>
Tonis Tiigi <tonistiigi@gmail.com>
Tony Reix <tony.reix@bull.net>
Tony Walker <walkert.uk@gmail.com>
Tor Andersson <tor.andersson@gmail.com>
Tormod Erevik Lea <tormodlea@gmail.com>
Toshiki Shima <hayabusa1419@gmail.com>
Totoro W <tw19881113@gmail.com>
Travis Bischel <travis.bischel@gmail.com>
Travis Cline <travis.cline@gmail.com>
Trevor Strohman <trevor.strohman@gmail.com>
Trey Lawrence <lawrence.trey@gmail.com>
Trey Roessig <trey.roessig@gmail.com>
Trey Tacon <ttacon@gmail.com>
Tristan Amini <tamini01@ca.ibm.com>
Tristan Colgate <tcolgate@gmail.com>
Tristan Ooohry <ooohry@gmail.com>
Tristan Rice <rice@fn.lc>
Troels Thomsen <troels@thomsen.io>
Trung Nguyen <trung.n.k@gmail.com>
Tudor Golubenco <tudor.g@gmail.com>
Tugdual Saunier <tugdual.saunier@gmail.com>
Tuo Shan <sturbo89@gmail.com> <shantuo@google.com>
Tyler Bui-Palsulich <tpalsulich@google.com>
Tyler Bunnell <tylerbunnell@gmail.com>
Tyler Treat <ttreat31@gmail.com>
Tzu-Jung
Lee <roylee17@currant.com>
Ugorji Nwoke <ugorji@gmail.com>
Ulf Holm Nielsen <doktor@dyregod.dk>
Ulrich Kunitz <uli.kunitz@gmail.com>
Umang Parmar <umangjparmar@gmail.com>
Uriel Mangado <uriel@berlinblue.org>
Urvil Patel <patelurvil38@gmail.com>
Uttam C Pawar <uttam.c.pawar@intel.com>
Vadim Grek <vadimprog@gmail.com>
Vadim Vygonets <unixdj@gmail.com>
Val Polouchkine <vpolouch@justin.tv>
Vega Garcia Luis Alfonso <vegacom@gmail.com>
Venil Noronha <veniln@vmware.com>
Veselkov Konstantin <kostozyb@gmail.com>
Viacheslav Poturaev <vearutop@gmail.com>
Victor Chudnovsky <vchudnov@google.com>
Victor Vrantchan <vrancean+github@gmail.com>
Vignesh Ramachandra <vickynamachandra@gmail.com>
Vikas Kedia <vikask@google.com>

Vincent Ambo <tazjin@googlemail.com>
Vincent Batts <vbatts@hashbangbash.com> <vbatts@gmail.com>
Vincent Vanackere <vincent.vanackere@gmail.com>
Vinu Rajashekhar <vinutharaj@gmail.com>
Vish Subramanian <vish@google.com>
Vishvananda Ishaya <vishvananda@gmail.com>
Visweswara
R <r.visweswara@gmail.com>
Vitor De Mario <vitordemario@gmail.com>
Vlad Krasnov <vlad@cloudflare.com>
Vladimir Kovpak <cn007b@gmail.com>
Vladimir Kuzmin <vkuzmin@uber.com>
Vladimir Mihailenco <vladimir.webdev@gmail.com>
Vladimir Nikishenko <vova616@gmail.com>
Vladimir Stefanovic <vladimir.stefanovic@imgtec.com>
Vladimir Varankin <nek.narqo@gmail.com>
Volker Dobler <dr.volker.dobler@gmail.com>
Volodymyr Paprotski <vpaprots@ca.ibm.com>
W. Trevor King <wking@tremily.us>
Wade Simmons <wade@wades.im>
Walter Poupore <wpoupore@google.com>
Wander Lairson Costa <wcosta@mozilla.com>
Warren Fernandes <warren.f.fernandes@gmail.com>
Wayne Ashley Berry <wayneashleyberry@gmail.com>
Wedson Almeida Filho <wedsonaf@google.com>
Weerasak Chongnguluam <singpor@gmail.com>
Wi Cngru <crvv.mail@gmail.com>
Wei Fu <fhfuwei@163.com>
Wei Guangjing <vcc.163@gmail.com>
Wei Xiao <wei.xiao@arm.com>
Weichao Tang <tevic.tt@gmail.com>
Wembley G. Leach, Jr <wembley.gl@gmail.com>
Wil Selwood <wselwood@gmail.com>
Wilfried
Teiken <wteiken@google.com>
Will Beason <willbeason@gmail.com>
Will Chan <willchan@google.com>
Will Faught <will.faught@gmail.com>
Will Morrow <wmorrow.qdt@qualcommdatacenter.com>
Will Norris <willnorris@google.com>
Will Storey <will@summercat.com>
Willem van der Schyff <willemvds@gmail.com>
William Chan <willchan@chromium.org>
William Chang <mr.williamchang@gmail.com>
William Josephson <wjosephson@gmail.com>
William Orr <will@worrbase.com> <ay1244@gmail.com>
Wisdom Omuya <deafgoat@gmail.com>
Wu Yunzhou <yunzhouwu@gmail.com>

Xi Ruoyao <xry23333@gmail.com>
Xia Bin <snyh@snyh.org>
Xing Xing <mikespook@gmail.com>
Xu Fei <badgangkiller@gmail.com>
Xudong Zhang <felixmelon@gmail.com>
Xudong Zheng <7pkvm5aw@slicealias.com>
Xuyang Kang <xuyangkang@gmail.com>
Yamagishi Kazutoshi <ykzts@desire.sh>
Yan Zou <yzou@google.com>
Yann Hodique <yhodique@google.com>
Yann Kerherv <yann.kerherve@gmail.com>
Yann Salan <yannsalaun1@gmail.com>
Yao Zhang <lunaria21@gmail.com>
Yaron de Leeuw <jarondl@google.com>
Yasha
Bubnov <girokompass@gmail.com>
Yasuharu Goto <matope.ono@gmail.com>
Yasuhiro Matsumoto <mattn.jp@gmail.com>
Yasuyuki Oka <yasuyk@gmail.com>
Yazen Shunnar <yazen.shunnar@gmail.com>
Yestin Sun <ylh@pdx.edu>
Yesudeep Mangalapilly <yesudeep@google.com>
Yissakhar Z. Beck <yissakhar.beck@gmail.com>
Yo-An Lin <yoanlin93@gmail.com>
Yohei Takeda <yo.tak0812@gmail.com>
Yongjian Xu <i3dmaster@gmail.com>
Yorman Arias <cixtords@gmail.com>
Yoshiyuki Kanno <nekotaroh@gmail.com> <yoshiyuki.kanno@stoic.co.jp>
Yoshiyuki Mineo <yoshiyuki.mineo@gmail.com>
Yosuke Akatsuka <yosuke.akatsuka@gmail.com>
Yu Heng Zhang <annita.zhang@cn.ibm.com>
Yu Xuan Zhang <zyxsh@cn.ibm.com>
Yuji Yaginuma <yuuji.yaginuma@gmail.com>
Yuki OKUSHI <huyuumi.dev@gmail.com>
Yuki Yugui Sonoda <yugui@google.com>
Yukihiro Nishinaka <6elpinal@gmail.com>
Yury Smolsky <yury@smolsky.by>
Yusuke Kagiwada <block.rxckin.beats@gmail.com>
Yuusei Kuwana <kuwana@kumama.org>
Yuval Pavel Zholkover <paulzhol@gmail.com>
Yves Junqueira <yvesj@google.com>
<yves.junqueira@gmail.com>
Zac Bergquist <zbergquist99@gmail.com>
Zach Bintliff <zbintliff@gmail.com>
Zach Gershman <zachgersh@gmail.com>
Zachary Amsden <zach@thundertoken.com>
Zachary Gershman <zgershman@pivotal.io>
Zak <zrjknill@gmail.com>

Zakatell Kanda <hi@zkanda.io>
Zellyn Hunter <zellyn@squareup.com> <zellyn@gmail.com>
Zev Goldstein <zev.goldstein@gmail.com>
Zheng Dayu <davidzheng23@gmail.com>
Zheng Xu <zheng.xu@arm.com>
Zhengyu He <hzy@google.com>
Zhongpeng Lin <zplin@uber.com>
Zhongtao Chen <chenzhongtao@126.com>
Zhongwei Yao <zhongwei.yao@arm.com>
Zhou Peng <p@ctruple.cn>
Ziad Hatahet <hatahet@gmail.com>
Zorion Arrizabalaga <zorionk@gmail.com>
<max.faceless.frei@gmail.com>
<hagen1778@gmail.com>
<tbunyk@gmail.com>
<faxriddinjon@gmail.com>
<zs349596@gmail.com>
<bronze1man@gmail.com>

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Dynamic NDArray Developers list:

- * Mark Wiebe
- * Continuum Analytics

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1.42 aws-sdk-go 1.55.8

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```
package licensemanager
```

```
import (  
    "context"  
    "fmt"  
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"  
    "github.com/aws/aws-sdk-go-v2/service/licensemanager/types"  
    "github.com/aws/smithy-go/middleware"  
    smithyhttp "github.com/aws/smithy-go/transport/http"  
)
```

// Lists received licenses.

```
func (c *Client) ListReceivedLicenses(ctx context.Context, params *ListReceivedLicensesInput, optFns  
...func(*Options)) (*ListReceivedLicensesOutput, error) {  
    if params == nil {  
        params = &ListReceivedLicensesInput{}  
    }
```



```

    result, metadata, err := c.invokeOperation(ctx, "ListReceivedLicenses", params, optFns,
c.addOperationListReceivedLicensesMiddlewares)
    if err != nil {
        return nil, err
    }

    out := result.(*ListReceivedLicensesOutput)
    out.ResultMetadata = metadata
    return out, nil
}

```

```

type ListReceivedLicensesInput struct {

    // Filters to scope the results. The following filters are supported:
    //
    // - ProductSKU
    //
    // - Status
    //
    //
    // - Fingerprint
    //
    // - IssuerName
    //
    // - Beneficiary
    Filters []types.Filter

    // Amazon Resource Names (ARNs) of the licenses.
    LicenseArns []string

    // Maximum number of results to return in a single call.
    MaxResults *int32

    // Token for the next set of results.
    NextToken *string

    noSmithyDocumentSerde
}

```

```

type ListReceivedLicensesOutput struct {

    // Received license details.
    Licenses []types.GrantedLicense

    // Token for the next set of results.
    NextToken *string
}

```

```

// Metadata pertaining to the operation's result.
ResultMetadata middleware.Metadata

noSmithyDocumentSerde
}

func (c *Client) addOperationListReceivedLicensesMiddlewares(stack *middleware.Stack, options Options) (err
error) {
    if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
        return err
    }
    err = stack.Serialize.Add(&awsAwsjson11_serializeOpListReceivedLicenses{}, middleware.After)
    if err != nil {
        return err
    }
    err = stack.Deserialize.Add(&awsAwsjson11_deserializeOpListReceivedLicenses{},
middleware.After)
    if err != nil {
        return err
    }
    if err := addProtocolFinalizerMiddlewares(stack, options, "ListReceivedLicenses"); err != nil {
        return fmt.Errorf("add protocol finalizers: %v", err)
    }

    if err = addLegacyEndpointContextSetter(stack, options); err != nil {
        return err
    }
    if err = addSetLoggerMiddleware(stack, options); err != nil {
        return err
    }
    if err = addClientRequestID(stack); err != nil {
        return err
    }
    if err = addComputeContentLength(stack); err != nil {
        return err
    }
    if err = addResolveEndpointMiddleware(stack, options); err != nil {
        return err
    }
    if err = addComputePayloadSHA256(stack); err != nil {
        return err
    }
    if err = addRetry(stack, options); err != nil {
        return err
    }
    if err = addRawResponseToMetadata(stack); err != nil {
        return err
    }
}

```

```

if err = addRecordResponseTiming(stack); err != nil {
    return err
}
if err = addSpanRetryLoop(stack, options); err != nil {
    return err
}
if err =
addClientUserAgent(stack, options); err != nil {
    return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err != nil {
    return err
}
if err = addTimeOffsetBuild(stack, c); err != nil {
    return err
}
if err = addUserAgentRetryMode(stack, options); err != nil {
    return err
}
if err = addCredentialSource(stack, options); err != nil {
    return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opListReceivedLicenses(options.Region),
middleware.Before); err != nil {
    return err
}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
if err = addResponseErrorMiddleware(stack); err != nil {
    return err
}
if err = addRequestResponseLogging(stack, options); err != nil {
    return
err
}
if err = addDisableHTTPSMiddleware(stack, options); err != nil {
    return err
}

```

```

if err = addSpanInitializeStart(stack); err != nil {
    return err
}
if err = addSpanInitializeEnd(stack); err != nil {
    return err
}
if err = addSpanBuildRequestStart(stack); err != nil {
    return err
}
if err = addSpanBuildRequestEnd(stack); err != nil {
    return err
}
return nil
}

func newServiceMetadataMiddleware_opListReceivedLicenses(region string)
*awsmiddleware.RegisterServiceMetadata {
return &awsmiddleware.RegisterServiceMetadata{
    Region:    region,
    ServiceID: ServiceID,
    OperationName: "ListReceivedLicenses",
}
}
name: License Scan

on: [pull_request]

jobs:
  licensescan:
    name: License Scan
    runs-on: ubuntu-latest
    strategy:
      matrix:
        python-version: [3.9]

    steps:
      - name: Checkout target
        uses: actions/checkout@v2
        with:
          path: sdkbase
          ref: ${ github.base_ref }
      - name: Checkout this ref
        uses: actions/checkout@v2
        with:
          path: new-ref
          fetch-depth: 0
      - name: Get Diff
        run: git --git-dir ./new-ref/.git diff --name-only --diff-filter=ACMRT ${ github.event.pull_request.base.sha }

```

```

${{ github.sha }} > refDiffFiles.txt
- name: Get Target Files
  run: git --git-dir ./sdkbase/.git ls-files | grep -xf refDiffFiles.txt - > targetFiles.txt
- name: Checkout scancode
  uses: actions/checkout@v2
  with:
    repository: nexB/scancode-toolkit
    path: scancode-toolkit
    fetch-depth: 1
- name: Set up Python ${{ matrix.python-version }}
  uses: actions/setup-python@v2
  with:
    python-version: ${{ matrix.python-version }}
# ScanCode
- name: Self-configure scancode
  working-directory: ./scancode-toolkit
  run: ./scancode --help
- name: Run Scan code on target
  run: cat targetFiles.txt | while read filename; do echo ./sdkbase/$filename; done | xargs ./scancode-
toolkit/scancode -l -n 30 --json-pp - | grep short_name | sort | uniq >> old-licenses.txt
- name: Run Scan code on pr ref
  run: cat refDiffFiles.txt | while read filename; do echo ./new-ref/$filename; done | xargs ./scancode-
toolkit/scancode -l -n 30 --json-pp - | grep short_name | sort | uniq >> new-licenses.txt
# compare
- name: License test
  run: if ! cmp old-licenses.txt new-licenses.txt; then echo "Licenses differ! Failing."; exit -1; else echo "Licenses
are the same. Success."; exit 0; fi
DeleteLicense
Initialize stack step
spanInitializeStart
RegisterServiceMetadata
legacyEndpointContextSetter
SetLogger
OperationInputValidation
spanInitializeEnd
Serialize stack step
spanBuildRequestStart
setOperationInput
ResolveEndpoint
OperationSerializer
Build stack step
ClientRequestID
ComputeContentLength
SetCredentialSourceMiddleware
UserAgent
AddTimeOffsetMiddleware
RecursionDetection
spanBuildRequestEnd

```

Finalize stack step
spanRetryLoop
Retry
RetryMetricsHeader
ResolveAuthScheme
GetIdentity
ResolveEndpointV2
disableHTTPS
ComputePayloadHash
setLegacyContextSigningOptions
Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody
CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming
RequestResponseLogger
ListLicenses
Initialize stack step
spanInitializeStart
RegisterServiceMetadata
legacyEndpointContextSetter
SetLogger
spanInitializeEnd
Serialize stack step
spanBuildRequestStart
setOperationInput
ResolveEndpoint
OperationSerializer
Build stack step
ClientRequestID
ComputeContentLength
SetCredentialSourceMiddleware
UserAgent
AddTimeOffsetMiddleware
RecursionDetection
spanBuildRequestEnd
Finalize stack step
spanRetryLoop
Retry
RetryMetricsHeader
ResolveAuthScheme
GetIdentity
ResolveEndpointV2

```

disableHTTPS
ComputePayloadHash
setLegacyContextSigningOptions
Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody
CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming
RequestResponseLogger
// Code generated by smithy-go-codegen DO NOT EDIT.

package grafana

import (
    "context"
    "fmt"
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"
    "github.com/aws/aws-sdk-go-v2/service/grafana/types"
    "github.com/aws/smithy-go/middleware"
    smithyhttp "github.com/aws/smithy-go/transport/http"
)

// Removes the Grafana Enterprise license from a workspace.
func (c *Client) DisassociateLicense(ctx context.Context, params *DisassociateLicenseInput, optFns
...func(*Options)) (*DisassociateLicenseOutput, error) {
    if params == nil {
        params = &DisassociateLicenseInput{}
    }

    result, metadata, err := c.invokeOperation(ctx, "DisassociateLicense", params, optFns,
c.addOperationDisassociateLicenseMiddlewares)
    if err != nil {
        return nil, err
    }

    out := result.(*DisassociateLicenseOutput)
    out.ResultMetadata = metadata
    return out, nil
}

type DisassociateLicenseInput struct {

    // The type of license to remove from the workspace.

```

```

//
// This member is required.
LicenseType types.LicenseType

//
// The ID of the workspace to remove the Grafana Enterprise license from.
//
// This member is required.
WorkspaceId *string

noSmithyDocumentSerde
}

type DisassociateLicenseOutput struct {

// A structure containing information about the workspace.
//
// This member is required.
Workspace *types.WorkspaceDescription

// Metadata pertaining to the operation's result.
ResultMetadata middleware.Metadata

noSmithyDocumentSerde
}

func (c *Client) addOperationDisassociateLicenseMiddlewares(stack *middleware.Stack, options Options) (err
error) {
if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
return err
}
err = stack.Serialize.Add(&awsRestjson1_serializeOpDisassociateLicense{}, middleware.After)
if err != nil {
return err
}
err = stack.Deserialize.Add(&awsRestjson1_deserializeOpDisassociateLicense{}, middleware.After)
if err != nil {
return err
}
if err := addProtocolFinalizerMiddlewares(stack, options, "DisassociateLicense");
err != nil {
return fmt.Errorf("add protocol finalizers: %v", err)
}

if err = addLegacyEndpointContextSetter(stack, options); err != nil {
return err
}
if err = addSetLoggerMiddleware(stack, options); err != nil {

```



```

    return err
}
if err = addClientRequestID(stack); err != nil {
    return err
}
if err = addComputeContentLength(stack); err != nil {
    return err
}
if err = addResolveEndpointMiddleware(stack, options); err != nil {
    return err
}
if err = addComputePayloadSHA256(stack); err != nil {
    return err
}
if err = addRetry(stack, options); err != nil {
    return err
}
if err = addRawResponseToMetadata(stack); err != nil {
    return err
}
if err = addRecordResponseTiming(stack); err != nil {
    return err
}
if err = addSpanRetryLoop(stack, options); err != nil {
    return err
}
if err = addClientUserAgent(stack, options); err != nil {
    return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if
err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err != nil {
    return err
}
if err = addTimeOffsetBuild(stack, c); err != nil {
    return err
}
if err = addUserAgentRetryMode(stack, options); err != nil {
    return err
}
if err = addCredentialSource(stack, options); err != nil {
    return err
}
}

```

```

if err = addOpDisassociateLicenseValidationMiddleware(stack); err != nil {
    return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opDisassociateLicense(options.Region),
middleware.Before); err != nil {
    return err
}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
if err = addResponseErrorMiddleware(stack); err != nil {
    return err
}
if err = addRequestResponseLogging(stack, options); err != nil {
    return err
}
if err = addDisableHTTPSMiddleware(stack, options);
err != nil {
    return err
}
if err = addSpanInitializeStart(stack); err != nil {
    return err
}
if err = addSpanInitializeEnd(stack); err != nil {
    return err
}
if err = addSpanBuildRequestStart(stack); err != nil {
    return err
}
if err = addSpanBuildRequestEnd(stack); err != nil {
    return err
}
return nil
}

func newServiceMetadataMiddleware_opDisassociateLicense(region string)
*awsmiddleware.RegisterServiceMetadata {
return &awsmiddleware.RegisterServiceMetadata{
    Region:    region,
    ServiceID: ServiceID,
    OperationName: "DisassociateLicense",
}
}
// Code generated by smithy-go-codegen DO NOT EDIT.

```

```

package licensemanager

import (
    "context"
    "fmt"
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"
    "github.com/aws/aws-sdk-go-v2/service/licensemanager/types"
    "github.com/aws/smithy-go/middleware"
    smithyhttp "github.com/aws/smithy-go/transport/http"
)

// Deletes the specified license.
func (c *Client) DeleteLicense(ctx context.Context, params *DeleteLicenseInput, optFns ...func(*Options))
(*DeleteLicenseOutput, error) {
    if params == nil {
        params = &DeleteLicenseInput{}
    }

    result, metadata, err := c.invokeOperation(ctx, "DeleteLicense", params, optFns,
c.addOperationDeleteLicenseMiddlewares)
    if err != nil {
        return nil, err
    }

    out := result.(*DeleteLicenseOutput)
    out.ResultMetadata = metadata
    return out, nil
}

type DeleteLicenseInput struct {

    // Amazon Resource Name (ARN) of the license.
    //
    // This member is required.
    LicenseArn *string

    // Current version of the license.
    //
    // This member is required.
    SourceVersion
    *string

    noSmithyDocumentSerde
}

type DeleteLicenseOutput struct {

    // Date when the license is deleted.

```

```

DeletionDate *string

// License status.
Status types.LicenseDeletionStatus

// Metadata pertaining to the operation's result.
ResultMetadata middleware.Metadata

noSmithyDocumentSerde
}

func (c *Client) addOperationDeleteLicenseMiddlewares(stack *middleware.Stack, options Options) (err error) {
    if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
        return err
    }
    err = stack.Serialize.Add(&awsAwsjson11_serializeOpDeleteLicense{}, middleware.After)
    if err != nil {
        return err
    }
    err = stack.Deserialize.Add(&awsAwsjson11_deserializeOpDeleteLicense{}, middleware.After)
    if err != nil {
        return err
    }
    if err := addProtocolFinalizerMiddlewares(stack, options, "DeleteLicense"); err != nil {
        return fmt.Errorf("add protocol finalizers: %v", err)
    }

    if err = addLegacyEndpointContextSetter(stack, options); err !=
    nil {
        return err
    }
    if err = addSetLoggerMiddleware(stack, options); err != nil {
        return err
    }
    if err = addClientRequestID(stack); err != nil {
        return err
    }
    if err = addComputeContentLength(stack); err != nil {
        return err
    }
    if err = addResolveEndpointMiddleware(stack, options); err != nil {
        return err
    }
    if err = addComputePayloadSHA256(stack); err != nil {
        return err
    }
    if err = addRetry(stack, options); err != nil {
        return err
    }

```

```

}
if err = addRawResponseToMetadata(stack); err != nil {
    return err
}
if err = addRecordResponseTiming(stack); err != nil {
    return err
}
if err = addSpanRetryLoop(stack, options); err != nil {
    return err
}
if err = addClientUserAgent(stack, options); err != nil {
    return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err
!= nil {
    return err
}
if err = addTimeOffsetBuild(stack, c); err != nil {
    return err
}
if err = addUserAgentRetryMode(stack, options); err != nil {
    return err
}
if err = addCredentialSource(stack, options); err != nil {
    return err
}
if err = addOpDeleteLicenseValidationMiddleware(stack); err != nil {
    return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opDeleteLicense(options.Region),
middleware.Before); err != nil {
    return err
}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
if err = addResponseErrorMiddleware(stack); err != nil {
    return err
}
}

```

```

if err = addRequestResponseLogging(stack, options); err != nil {
    return err
}
if err = addDisableHTTPSMiddleware(stack, options); err != nil {
    return err
}
if err = addSpanInitializeStart(stack); err != nil {
    return err
}
if err = addSpanInitializeEnd(stack); err != nil {
    return err
}
if
err = addSpanBuildRequestStart(stack); err != nil {
    return err
}
if err = addSpanBuildRequestEnd(stack); err != nil {
    return err
}
return nil
}

func newServiceMetadataMiddleware_opDeleteLicense(region string) *awsmiddleware.RegisterServiceMetadata {
    return &awsmiddleware.RegisterServiceMetadata{
        Region:    region,
        ServiceID: ServiceID,
        OperationName: "DeleteLicense",
    }
}
// Code generated by smithy-go-codegen DO NOT EDIT.

package licensemanager

import (
    "context"
    "fmt"
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"
    "github.com/aws/aws-sdk-go-v2/service/licensemanager/types"
    "github.com/aws/smithy-go/middleware"
    smithyhttp "github.com/aws/smithy-go/transport/http"
)

// Lists the licenses for your account.
func (c *Client) ListLicenses(ctx context.Context, params *ListLicensesInput, optFns ...func(*Options))
(*ListLicensesOutput, error) {
    if params == nil {
        params = &ListLicensesInput{}
    }
}

```

```

    result, metadata, err := c.invokeOperation(ctx, "ListLicenses", params, optFns,
c.addOperationListLicensesMiddlewares)
    if err != nil {
        return nil, err
    }

    out := result.(*ListLicensesOutput)
    out.ResultMetadata = metadata
    return out, nil
}

type ListLicensesInput struct {

    // Filters to scope the results. The following filters are supported:
    //
    // - Beneficiary
    //
    // - ProductSKU
    //
    // - Fingerprint
    //
    // - Status
    Filters
    []types.Filter

    // Amazon Resource Names (ARNs) of the licenses.
    LicenseArns []string

    // Maximum number of results to return in a single call.
    MaxResults *int32

    // Token for the next set of results.
    NextToken *string

    noSmithyDocumentSerde
}

type ListLicensesOutput struct {

    // License details.
    Licenses []types.License

    // Token for the next set of results.
    NextToken *string

    // Metadata pertaining to the operation's result.
    ResultMetadata middleware.Metadata

```

```
noSmithyDocumentSerde
}
```

```
func (c *Client) addOperationListLicensesMiddlewares(stack *middleware.Stack, options Options) (err error) {
    if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
        return err
    }
    err = stack.Serialize.Add(&awsAwsjson11_serializeOpListLicenses{}, middleware.After)
    if err != nil {
        return err
    }
    err = stack.Deserialize.Add(&awsAwsjson11_deserializeOpListLicenses{}, middleware.After)
    if err != nil {
        return err
    }
    if err := addProtocolFinalizerMiddlewares(stack,
        options, "ListLicenses"); err != nil {
        return fmt.Errorf("add protocol finalizers: %v", err)
    }

    if err = addLegacyEndpointContextSetter(stack, options); err != nil {
        return err
    }
    if err = addSetLoggerMiddleware(stack, options); err != nil {
        return err
    }
    if err = addClientRequestID(stack); err != nil {
        return err
    }
    if err = addComputeContentLength(stack); err != nil {
        return err
    }
    if err = addResolveEndpointMiddleware(stack, options); err != nil {
        return err
    }
    if err = addComputePayloadSHA256(stack); err != nil {
        return err
    }
    if err = addRetry(stack, options); err != nil {
        return err
    }
    if err = addRawResponseToMetadata(stack); err != nil {
        return err
    }
    if err = addRecordResponseTiming(stack); err != nil {
        return err
    }
}
```



```

if err = addSpanRetryLoop(stack, options); err != nil {
    return err
}
if err = addClientUserAgent(stack, options); err != nil {
    return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack);
err != nil {
    return err
}
if err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err != nil {
    return err
}
if err = addTimeOffsetBuild(stack, c); err != nil {
    return err
}
if err = addUserAgentRetryMode(stack, options); err != nil {
    return err
}
if err = addCredentialSource(stack, options); err != nil {
    return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opListLicenses(options.Region), middleware.Before);
err != nil {
    return err
}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
if err = addResponseErrorMiddleware(stack); err != nil {
    return err
}
if err = addRequestResponseLogging(stack, options); err != nil {
    return err
}
if err = addDisableHTTPSMiddleware(stack, options); err != nil {
    return err
}
if err = addSpanInitializeStart(stack);
err != nil {
    return err
}

```

```

if err = addSpanInitializeEnd(stack); err != nil {
    return err
}
if err = addSpanBuildRequestStart(stack); err != nil {
    return err
}
if err = addSpanBuildRequestEnd(stack); err != nil {
    return err
}
return nil
}

func newServiceMetadataMiddleware_opListLicenses(region string) *awsmiddleware.RegisterServiceMetadata {
    return &awsmiddleware.RegisterServiceMetadata{
        Region:    region,
        ServiceID: ServiceID,
        OperationName: "ListLicenses",
    }
}
DisassociateLicense
Initialize stack step
    spanInitializeStart
    RegisterServiceMetadata
    legacyEndpointContextSetter
    SetLogger
    OperationInputValidation
    spanInitializeEnd
Serialize stack step
    spanBuildRequestStart
    setOperationInput
    ResolveEndpoint
    OperationSerializer
Build stack step
    ClientRequestID
    ComputeContentLength
    SetCredentialSourceMiddleware
    UserAgent
    AddTimeOffsetMiddleware
    RecursionDetection
    spanBuildRequestEnd
Finalize stack step
    spanRetryLoop
    Retry
    RetryMetricsHeader
    ResolveAuthScheme
    GetIdentity
    ResolveEndpointV2
    disableHTTPS

```

ComputePayloadHash
setLegacyContextSigningOptions
Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody
CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming
RequestResponseLogger
CheckInLicense
Initialize stack step
spanInitializeStart
RegisterServiceMetadata
legacyEndpointContextSetter
SetLogger
OperationInputValidation
spanInitializeEnd
Serialize stack step
spanBuildRequestStart
setOperationInput
ResolveEndpoint
OperationSerializer
Build stack step
ClientRequestID
ComputeContentLength
SetCredentialSourceMiddleware
UserAgent
AddTimeOffsetMiddleware
RecursionDetection
spanBuildRequestEnd
Finalize stack step
spanRetryLoop
Retry
RetryMetricsHeader
ResolveAuthScheme
GetIdentity
ResolveEndpointV2
disableHTTPS
ComputePayloadHash
setLegacyContextSigningOptions
Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody

CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming
RequestResponseLogger
CheckoutBorrowLicense
Initialize stack step
spanInitializeStart
RegisterServiceMetadata
legacyEndpointContextSetter
SetLogger
OperationInputValidation
spanInitializeEnd
Serialize stack step
spanBuildRequestStart
setOperationInput
ResolveEndpoint
OperationSerializer
Build stack step
ClientRequestID
ComputeContentLength
SetCredentialSourceMiddleware
UserAgent
AddTimeOffsetMiddleware
RecursionDetection
spanBuildRequestEnd
Finalize stack step
spanRetryLoop
Retry
RetryMetricsHeader
ResolveAuthScheme
GetIdentity
ResolveEndpointV2
disableHTTPS
ComputePayloadHash
setLegacyContextSigningOptions
Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody
CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming

```

RequestResponseLogger
// Code generated by smithy-go-codegen DO NOT EDIT.

package licensemanager

import (
    "context"
    "fmt"
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"
    "github.com/aws/aws-sdk-go-v2/service/licensemanager/types"
    "github.com/aws/smithy-go/middleware"
    smithyhttp "github.com/aws/smithy-go/transport/http"
)

// Gets detailed information about the specified license.
func (c *Client) GetLicense(ctx context.Context, params *GetLicenseInput, optFns ...func(*Options))
(*GetLicenseOutput, error) {
    if params == nil {
        params = &GetLicenseInput{}
    }

    result, metadata, err := c.invokeOperation(ctx, "GetLicense", params, optFns,
c.addOperationGetLicenseMiddlewares)
    if err != nil {
        return nil, err
    }

    out := result.(*GetLicenseOutput)
    out.ResultMetadata = metadata
    return out, nil
}

type GetLicenseInput struct {

    // Amazon Resource Name (ARN) of the license.
    //
    // This member is required.
    LicenseArn *string

    // License version.
    Version *string

    noSmithyDocumentSerde
}

type
GetLicenseOutput struct {

```

```

// License details.
License *types.License

// Metadata pertaining to the operation's result.
ResultMetadata middleware.Metadata

noSmithyDocumentSerde
}

func (c *Client) addOperationGetLicenseMiddlewares(stack *middleware.Stack, options Options) (err error) {
    if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
        return err
    }
    err = stack.Serialize.Add(&awsAwsjson11_serializeOpGetLicense{}, middleware.After)
    if err != nil {
        return err
    }
    err = stack.Deserialize.Add(&awsAwsjson11_deserializeOpGetLicense{}, middleware.After)
    if err != nil {
        return err
    }
    if err := addProtocolFinalizerMiddlewares(stack, options, "GetLicense"); err != nil {
        return fmt.Errorf("add protocol finalizers: %v", err)
    }

    if err = addLegacyEndpointContextSetter(stack, options); err != nil {
        return err
    }
    if err = addSetLoggerMiddleware(stack, options); err != nil {
        return err
    }
    if err = addClientRequestID(stack); err
    != nil {
        return err
    }
    if err = addComputeContentLength(stack); err != nil {
        return err
    }
    if err = addResolveEndpointMiddleware(stack, options); err != nil {
        return err
    }
    if err = addComputePayloadSHA256(stack); err != nil {
        return err
    }
    if err = addRetry(stack, options); err != nil {
        return err
    }
    if err = addRawResponseToMetadata(stack); err != nil {

```

```

    return err
}
if err = addRecordResponseTiming(stack); err != nil {
    return err
}
if err = addSpanRetryLoop(stack, options); err != nil {
    return err
}
if err = addClientUserAgent(stack, options); err != nil {
    return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err != nil {
    return err
}
if err = addTimeOffsetBuild(stack, c); err != nil {
    return err
}
if err = addUserAgentRetryMode(stack, options);
err != nil {
    return err
}
if err = addCredentialSource(stack, options); err != nil {
    return err
}
if err = addOpGetLicenseValidationMiddleware(stack); err != nil {
    return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opGetLicense(options.Region), middleware.Before);
err != nil {
    return err
}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
if err = addResponseErrorMiddleware(stack); err != nil {
    return err
}
if err = addRequestResponseLogging(stack, options); err != nil {
    return err
}

```

```

    }
    if err = addDisableHTTPSMiddleware(stack, options); err != nil {
        return err
    }
    if err = addSpanInitializeStart(stack); err != nil {
        return err
    }
    if err = addSpanInitializeEnd(stack); err != nil {
        return err
    }
    if err = addSpanBuildRequestStart(stack); err != nil {
        return err
    }
    if err = addSpanBuildRequestEnd(stack); err != nil {
        return err
    }
    return
    nil
}

func newServiceMetadataMiddleware_opGetLicense(region string) *awsmiddleware.RegisterServiceMetadata {
    return &awsmiddleware.RegisterServiceMetadata{
        Region:    region,
        ServiceID: ServiceID,
        OperationName: "GetLicense",
    }
}
// Code generated by smithy-go-codegen DO NOT EDIT.

package licensemanager

import (
    "context"
    "fmt"
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"
    "github.com/aws/aws-sdk-go-v2/service/licensemanager/types"
    "github.com/aws/smithy-go/middleware"
    smithyhttp "github.com/aws/smithy-go/transport/http"
)

// Creates a license.
func (c *Client) CreateLicense(ctx context.Context, params *CreateLicenseInput, optFns ...func(*Options))
(*CreateLicenseOutput, error) {
    if params == nil {
        params = &CreateLicenseInput{}
    }

    result, metadata, err := c.invokeOperation(ctx, "CreateLicense", params, optFns,

```



```

c.addOperationCreateLicenseMiddlewares)
if err != nil {
    return nil, err
}

out := result.(*CreateLicenseOutput)
out.ResultMetadata = metadata
return out, nil
}

type CreateLicenseInput struct {

    // License beneficiary.
    //
    // This member is required.
    Beneficiary *string

    // Unique, case-sensitive identifier that you provide to ensure the idempotency of
    // the request.
    //
    //
    // This member is required.
    ClientToken *string

    // Configuration for consumption of the license. Choose a provisional
    // configuration for workloads running with continuous connectivity. Choose a
    // borrow configuration for workloads with offline usage.
    //
    // This member is required.
    ConsumptionConfiguration *types.ConsumptionConfiguration

    // License entitlements.
    //
    // This member is required.
    Entitlements []types.Entitlement

    // Home Region for the license.
    //
    // This member is required.
    HomeRegion *string

    // License issuer.
    //
    // This member is required.
    Issuer *types.Issuer

    // License name.
    //

```

```

// This member is required.
LicenseName *string

// Product name.
//
// This member is required.
ProductName *string

// Product SKU.
//
// This member is required.
ProductSKU *string

// Date and time range during which the license is valid, in ISO8601-UTC format.
//
// This member is required.
Validity *types.DatetimeRange

// Information about
the license.
LicenseMetadata []types.Metadata

// Tags to add to the license. For more information about tagging support in
// License Manager, see the [TagResource]operation.
//
// [TagResource]: https://docs.aws.amazon.com/license-manager/latest/APIReference/API\_TagResource.html
Tags []types.Tag

noSmithyDocumentSerde
}

type CreateLicenseOutput struct {

// Amazon Resource Name (ARN) of the license.
LicenseArn *string

// License status.
Status types.LicenseStatus

// License version.
Version *string

// Metadata pertaining to the operation's result.
ResultMetadata middleware.Metadata

noSmithyDocumentSerde
}

```

```

func (c *Client) addOperationCreateLicenseMiddlewares(stack *middleware.Stack, options Options) (err error) {
    if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
        return err
    }
    err = stack.Serialize.Add(&awsAwsjson11_serializeOpCreateLicense{}, middleware.After)
    if err != nil {
        return err
    }
    err = stack.Deserialize.Add(&awsAwsjson11_deserializeOpCreateLicense{},
        middleware.After)
    if err != nil {
        return err
    }
    if err := addProtocolFinalizerMiddlewares(stack, options, "CreateLicense"); err != nil {
        return fmt.Errorf("add protocol finalizers: %v", err)
    }

    if err = addLegacyEndpointContextSetter(stack, options); err != nil {
        return err
    }
    if err = addSetLoggerMiddleware(stack, options); err != nil {
        return err
    }
    if err = addClientRequestID(stack); err != nil {
        return err
    }
    if err = addComputeContentLength(stack); err != nil {
        return err
    }
    if err = addResolveEndpointMiddleware(stack, options); err != nil {
        return err
    }
    if err = addComputePayloadSHA256(stack); err != nil {
        return err
    }
    if err = addRetry(stack, options); err != nil {
        return err
    }
    if err = addRawResponseToMetadata(stack); err != nil {
        return err
    }
    if err = addRecordResponseTiming(stack); err != nil {
        return err
    }
    if err = addSpanRetryLoop(stack, options); err != nil {
        return err
    }
    if err

```

```

= addClientUserAgent(stack, options); err != nil {
    return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err != nil {
    return err
}
if err = addTimeOffsetBuild(stack, c); err != nil {
    return err
}
if err = addUserAgentRetryMode(stack, options); err != nil {
    return err
}
if err = addCredentialSource(stack, options); err != nil {
    return err
}
if err = addOpCreateLicenseValidationMiddleware(stack); err != nil {
    return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opCreateLicense(options.Region),
middleware.Before); err != nil {
    return err
}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
if err = addResponseErrorMiddleware(stack); err != nil {
    return
err
}
if err = addRequestResponseLogging(stack, options); err != nil {
    return err
}
if err = addDisableHTTPSMiddleware(stack, options); err != nil {
    return err
}
if err = addSpanInitializeStart(stack); err != nil {
    return err
}
if err = addSpanInitializeEnd(stack); err != nil {

```

```

    return err
}
if err = addSpanBuildRequestStart(stack); err != nil {
    return err
}
if err = addSpanBuildRequestEnd(stack); err != nil {
    return err
}
return nil
}

func newServiceMetadataMiddleware_opCreateLicense(region string) *awsmiddleware.RegisterServiceMetadata {
    return &awsmiddleware.RegisterServiceMetadata{
        Region:    region,
        ServiceID: ServiceID,
        OperationName: "CreateLicense",
    }
}

```

AWS SDK for Go

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AssociateLicense

Initialize stack step

spanInitializeStart

RegisterServiceMetadata

legacyEndpointContextSetter

SetLogger

OperationInputValidation

spanInitializeEnd

Serialize stack step

spanBuildRequestStart

setOperationInput

ResolveEndpoint

OperationSerializer

Build stack step

ClientRequestID

ComputeContentLength

SetCredentialSourceMiddleware

UserAgent

AddTimeOffsetMiddleware

RecursionDetection

spanBuildRequestEnd

Finalize stack step

spanRetryLoop

Retry

RetryMetricsHeader

ResolveAuthScheme

GetIdentity

```

ResolveEndpointV2
disableHTTPS
ComputePayloadHash
setLegacyContextSigningOptions
Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody
CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming
RequestResponseLogger
// Code generated by smithy-go-codegen DO NOT EDIT.

package licensemanager

import (
    "context"
    "fmt"
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"
    "github.com/aws/aws-sdk-go-v2/service/licensemanager/types"
    "github.com/aws/smithy-go/middleware"
    smithyhttp "github.com/aws/smithy-go/transport/http"
)

// Checks out the specified license for offline use.
func (c *Client) CheckoutBorrowLicense(ctx context.Context, params *CheckoutBorrowLicenseInput, optFns
...func(*Options)) (*CheckoutBorrowLicenseOutput, error) {
    if params == nil {
        params = &CheckoutBorrowLicenseInput{}
    }

    result, metadata, err := c.invokeOperation(ctx, "CheckoutBorrowLicense", params, optFns,
c.addOperationCheckoutBorrowLicenseMiddlewares)
    if err != nil {
        return nil, err
    }

    out := result.(*CheckoutBorrowLicenseOutput)
    out.ResultMetadata = metadata
    return out, nil
}

type CheckoutBorrowLicenseInput struct {

```

```

// Unique, case-sensitive identifier that you provide to ensure the idempotency of
//
the request.
//
// This member is required.
ClientToken *string

// Digital signature method. The possible value is JSON Web Signature (JWS)
// algorithm PS384. For more information, see [RFC 7518 Digital Signature with RSASSA-PSS].
//
// [RFC 7518 Digital Signature with RSASSA-PSS]: https://tools.ietf.org/html/rfc7518#section-3.5
//
// This member is required.
DigitalSignatureMethod types.DigitalSignatureMethod

// License entitlements. Partial checkouts are not supported.
//
// This member is required.
Entitlements []types.EntitlementData

// Amazon Resource Name (ARN) of the license. The license must use the borrow
// consumption configuration.
//
// This member is required.
LicenseArn *string

// Information about constraints.
CheckoutMetadata []types.Metadata

// Node ID.
NodeId *string

noSmithyDocumentSerde
}

type CheckoutBorrowLicenseOutput struct {

// Information about constraints.
CheckoutMetadata []types.Metadata

// Allowed license entitlements.
EntitlementsAllowed
[]types.EntitlementData

// Date and time at which the license checkout expires.
Expiration *string

// Date and time at which the license checkout is issued.

```

```

IssuedAt *string

// Amazon Resource Name (ARN) of the license.
LicenseArn *string

// License consumption token.
LicenseConsumptionToken *string

// Node ID.
NodeId *string

// Signed token.
SignedToken *string

// Metadata pertaining to the operation's result.
ResultMetadata middleware.Metadata

noSmithyDocumentSerde
}

func (c *Client) addOperationCheckoutBorrowLicenseMiddlewares(stack *middleware.Stack, options Options) (err
error) {
    if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
        return err
    }
    err = stack.Serialize.Add(&awsAwsjson11_serializeOpCheckoutBorrowLicense{}, middleware.After)
    if err != nil {
        return err
    }
    err = stack.Deserialize.Add(&awsAwsjson11_deserializeOpCheckoutBorrowLicense{}, middleware.After)
    if err != nil {
        return
    }
    err
}
if err := addProtocolFinalizerMiddlewares(stack, options, "CheckoutBorrowLicense"); err != nil {
    return fmt.Errorf("add protocol finalizers: %v", err)
}

if err = addLegacyEndpointContextSetter(stack, options); err != nil {
    return err
}
if err = addSetLoggerMiddleware(stack, options); err != nil {
    return err
}
if err = addClientRequestID(stack); err != nil {
    return err
}
if err = addComputeContentLength(stack); err != nil {

```



```

return err
}
if err = addResolveEndpointMiddleware(stack, options); err != nil {
return err
}
if err = addComputePayloadSHA256(stack); err != nil {
return err
}
if err = addRetry(stack, options); err != nil {
return err
}
if err = addRawResponseToMetadata(stack); err != nil {
return err
}
if err = addRecordResponseTiming(stack); err != nil {
return err
}
if err = addSpanRetryLoop(stack, options); err != nil {
return err
}
if err = addClientUserAgent(stack, options); err != nil {
return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack);
err != nil {
return err
}
if err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err != nil {
return err
}
if err = addTimeOffsetBuild(stack, c); err != nil {
return err
}
if err = addUserAgentRetryMode(stack, options); err != nil {
return err
}
if err = addCredentialSource(stack, options); err != nil {
return err
}
if err = addOpCheckoutBorrowLicenseValidationMiddleware(stack); err != nil {
return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opCheckoutBorrowLicense(options.Region),
middleware.Before); err != nil {
return err
}

```

```

}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
if err = addResponseErrorMiddleware(stack); err != nil {
    return err
}
if err = addRequestResponseLogging(stack, options);
err != nil {
    return err
}
if err = addDisableHTTPSMiddleware(stack, options); err != nil {
    return err
}
if err = addSpanInitializeStart(stack); err != nil {
    return err
}
if err = addSpanInitializeEnd(stack); err != nil {
    return err
}
if err = addSpanBuildRequestStart(stack); err != nil {
    return err
}
if err = addSpanBuildRequestEnd(stack); err != nil {
    return err
}
return nil
}

func newServiceMetadataMiddleware_opCheckoutBorrowLicense(region string)
*awsmiddleware.RegisterServiceMetadata {
return &awsmiddleware.RegisterServiceMetadata{
    Region:    region,
    ServiceID: ServiceID,
    OperationName: "CheckoutBorrowLicense",
}
}
{
    "smithy": "2.0",
    "shapes": {
        "com.amazonaws.licensemanagerlinuxsubscriptions#BoxInteger": {
            "type": "integer"
        },
        "com.amazonaws.licensemanagerlinuxsubscriptions#BoxLong": {
            "type": "long"
        }
    }
}

```

```

    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#DeregisterSubscriptionProvider": {
      "type": "operation",
      "input": {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#DeregisterSubscriptionProviderRequest"
      },
      "output": {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#DeregisterSubscriptionProviderResponse"
      },
      "errors": [
        {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerErrorException"
        },
        {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ResourceNotFoundException"
        },
        {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ThrottlingException"
        },
        {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ValidationException"
        }
      ],
      "traits": {
        "smithy.api#documentation": "<p>Remove a third-party subscription provider from the Bring Your Own License (BYOL) subscriptions \n\t\t\tregistered to your account.</p>",
        "smithy.api#http": {
          "code": 200,
          "method": "POST",
          "uri": "/subscription/DeregisterSubscriptionProvider"
        },
        "smithy.api#idempotent": {}
      }
    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#DeregisterSubscriptionProviderRequest": {
      "type": "structure",
      "members": {
        "SubscriptionProviderArn": {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderArn",
          "traits": {
            "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the subscription provider resource to deregister.</p>",
            "smithy.api#required": {}
          }
        }
      },
      "traits": {

```

```

    "smithy.api#input": {}
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#DeregisterSubscriptionProviderResponse": {
  "type": "structure",
  "members": {},
  "traits": {
    "smithy.api#output": {}
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#Filter": {
  "type": "structure",
  "members": {
    "Name": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The type of name to filter by.</p>"
      }
    },
    "Values": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#StringList",
      "traits": {
        "smithy.api#documentation": "<p>One or more values for the name to filter by.</p>"
      }
    },
    "Operator": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#Operator",
      "traits": {
        "smithy.api#documentation": "<p>An operator for filtering results.</p>"
      }
    }
  },
  "traits": {
    "smithy.api#documentation": "<p>A filter object that is used to return more specific results from a describe operation.\n    Filters can be used to match a set of resources by specific criteria.</p>"
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#FilterList": {
  "type": "list",
  "member": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#Filter"
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#GetRegisteredSubscriptionProvider": {
  "type": "operation",
  "input": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#GetRegisteredSubscriptionProviderRequest"
  }
}

```

```

    },
    "output": {
      "target":
"com.amazonaws.licensemanagerlinuxsubscriptions#GetRegisteredSubscriptionProviderResponse"
    },
    "errors": [
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerErrorException"
      },
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ResourceNotFoundException"
      },
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ThrottlingException"
      },
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ValidationException"
      }
    ],
    "traits": {
      "smithy.api#documentation": "<p>Get details for a Bring Your Own License (BYOL) subscription that's
registered to your account.</p>",
      "smithy.api#http": {
        "code": 200,
        "method": "POST",
        "uri": "/subscription/GetRegisteredSubscriptionProvider"
      },
      "smithy.api#idempotent": {}
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#GetRegisteredSubscriptionProviderRequest": {
    "type": "structure",
    "members": {
      "SubscriptionProviderArn": {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderArn",
        "traits": {
          "smithy.api#documentation":
"<p>The Amazon Resource Name (ARN) of the BYOL registration resource to get details for.</p>",
          "smithy.api#required": {}
        }
      }
    },
    "traits": {
      "smithy.api#input": {}
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#GetRegisteredSubscriptionProviderResponse": {
    "type": "structure",

```



```

    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#GetServiceSettings": {
      "type": "operation",
      "input": {
        "target":
"com.amazonaws.licensemanagerlinuxsubscriptions#GetServiceSettingsRequest"
      },
      "output": {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#GetServiceSettingsResponse"
      },
      "errors": [
        {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerError"
        },
        {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ThrottlingException"
        },
        {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ValidationException"
        }
      ],
      "traits": {
        "smithy.api#documentation": "<p>Lists the Linux subscriptions service settings for your account.</p>",
        "smithy.api#http": {
          "code": 200,
          "method": "POST",
          "uri": "/subscription/GetServiceSettings"
        },
        "smithy.api#idempotent": {}
      }
    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#GetServiceSettingsRequest": {
      "type": "structure",
      "members": {}
    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#GetServiceSettingsResponse": {
      "type": "structure",
      "members": {
        "LinuxSubscriptionsDiscovery": {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#LinuxSubscriptionsDiscovery",
          "traits": {
            "smithy.api#documentation": "<p>Lists if discovery has been enabled for Linux subscriptions.</p>"
          }
        },
        "LinuxSubscriptionsDiscoverySettings": {
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#LinuxSubscriptionsDiscoverySettings",
          "traits": {

```

```

    "smithy.api#documentation": "<p>Lists
the settings defined for Linux subscriptions discovery. The settings include if\n    Organizations integration has
been enabled, and which Regions data will be aggregated from.</p>"
  },
  "Status": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#Status",
    "traits": {
      "smithy.api#documentation": "<p>Indicates the status of Linux subscriptions settings being
applied.</p>"
    }
  },
  "StatusMessage": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#StringMap",
    "traits": {
      "smithy.api#documentation": "<p>A message which details the Linux subscriptions service settings
current status.</p>"
    }
  },
  "HomeRegions": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#StringList",
    "traits": {
      "smithy.api#documentation": "<p>The Region in which License Manager displays the aggregated
data for Linux\n    subscriptions.</p>"
    }
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#Instance": {
  "type": "structure",
  "members": {
    "AmiId": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The AMI ID used to launch the instance.</p>"
      }
    },
    "InstanceID": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The instance ID of the resource.</p>"
      }
    },
    "InstanceType": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The instance type of the resource.</p>"
      }
    }
  }
}

```



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    }
  },
  "AccountID": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The account ID which owns the instance.</p>"
    }
  },
  "Status": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The status of the instance.</p>"
    }
  },
  "Region": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The Region the instance is running in.</p>"
    }
  },
  "UsageOperation": {
    "target": "smithy.api#String",

    "traits": {
      "smithy.api#documentation": "<p>The usage operation of the instance. For more information, see For
more information, see<n      <a href=\"https://docs.aws.amazon.com/license-manager/latest/userguide/linux-
subscriptions-usage-operation.html\">Usage<n      operation values</a> in the <i>License Manager User
Guide</i>.</p>"
    }
  },
  "ProductCode": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ProductCodeList",
    "traits": {
      "smithy.api#documentation": "<p>The product code for the instance. For more information, see <a
href=\"https://docs.aws.amazon.com/license-manager/latest/userguide/linux-subscriptions-usage-
operation.html\">Usage<n      operation values</a> in the <i>License Manager User Guide</i> .</p>"
    }
  },
  "LastUpdatedTime": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The time in which the last discovery updated the instance
details.</p>"
    }
  },
  "SubscriptionName": {
    "target": "smithy.api#String",
    "traits": {

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        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#Instance"
    }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerError": {
    "type": "structure",
    "members": {
        "message": {
            "target": "smithy.api#String"
        }
    },
    "traits": {
        "smithy.api#documentation":
"<p>An exception occurred with the service.</p>",
        "smithy.api#error": "server"
    }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#LicenseManagerLinuxSubscriptions": {
    "type": "service",
    "version": "2018-05-10",
    "operations": [
        {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#DeregisterSubscriptionProvider"
        },
        {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#GetRegisteredSubscriptionProvider"
        },
        {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#GetServiceSettings"
        },
        {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptionInstances"
        },
        {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptions"
        },
        {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListRegisteredSubscriptionProviders"
        },
        {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListTagsForResource"
        },
        {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#RegisterSubscriptionProvider"
        },
        {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#TagResource"
        },
        {

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    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#UntagResource"
  },
  {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#UpdateServiceSettings"
  }
],
"traits": {
  "aws.api#service": {
    "sdkId": "License Manager Linux Subscriptions",
    "arnNamespace": "license-manager-linux-subscriptions",
    "cloudTrailEventSource": "license-manager-linux-subscriptions.amazonaws.com"
  },
  "aws.auth#sigv4": {
    "name": "license-manager-linux-subscriptions"
  },
  "aws.protocols#restJson1": {},
  "smithy.api#cors": {
    "additionalAllowedHeaders": [
      "*",
      "content-type",
      "x-amz-content-sha256",
      "x-amz-user-agent",
      "x-amzn-platform-id",
      "x-amzn-trace-id"
    ],
    "additionalExposedHeaders": [
      "x-amzn-errortype",
      "x-amzn-requestid",
      "x-amzn-trace-id"
    ]
  },
  "smithy.api#documentation": "<p>With License Manager,
you can discover and track your commercial Linux subscriptions on running Amazon EC2 instances.</p>",
  "smithy.api#title": "AWS License Manager Linux Subscriptions",
  "smithy.rules#endpointRuleSet": {
    "version": "1.0",
    "parameters": {
      "Region": {
        "builtIn": "AWS::Region",
        "required": false,
        "documentation": "The AWS region used to dispatch the request.",
        "type": "String"
      },
      "UseDualStack": {
        "builtIn": "AWS::UseDualStack",
        "required": true,
        "default": false,
        "documentation": "When true, use the dual-stack endpoint. If the configured endpoint does not

```

```

support dual-stack, dispatching the request MAY return an error.",
    "type": "Boolean"
},
"UseFIPS": {
    "builtIn": "AWS::UseFIPS",
    "required": true,
    "default": false,
    "documentation": "When true, send this request to the FIPS-compliant regional endpoint. If the
configured endpoint does not have a FIPS compliant endpoint, dispatching the request will return an error.",
    "type": "Boolean"
},
"Endpoint": {
    "builtIn": "SDK::Endpoint",
    "required": false,
    "documentation": "Override the endpoint used to send this request",
    "type": "String"
}
},
"rules": [
    {
        "conditions": [
            {
                "fn": "isSet",
                "argv": [
                    {
                        "ref": "Endpoint"
                    }
                ]
            }
        ]
    }
],
"rules": [
    {
        "conditions": [
            {
                "fn": "booleanEquals",
                "argv": [
                    {
                        "ref": "UseFIPS"
                    },
                    true
                ]
            }
        ]
    }
],
    "error": "Invalid Configuration: FIPS and custom endpoint are not supported",
    "type": "error"
},
{

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```

"conditions": [],
"rules": [
  {
    "conditions": [
      {
        "fn": "booleanEquals",
        "argv": [
          {
            "ref": "UseDualStack"
          },
          true
        ]
      }
    ]
  }
],
"error": "Invalid Configuration: Dualstack and custom endpoint are not supported",
"type": "error"
},
{
  "conditions": [],
  "endpoint": {
    "url": {
      "ref": "Endpoint"
    },
    "properties": {},
    "headers": {}
  },
  "type": "endpoint"
}
],
"type": "tree"
}
],
"type": "tree"
},
{
  "conditions": [],
  "rules": [
    {
      "conditions": [
        {
          "fn": "isSet",
          "argv": [
            {
              "ref": "Region"
            }
          ]
        }
      ]
    }
  ]
}

```

```

    }
  ],
  "rules": [
    {
      "conditions": [
        {
          "fn": "aws.partition",
          "argv": [
            {
              "ref": "Region"
            }
          ],
          "assign": "PartitionResult"
        }
      ],
      "rules": [
        {
          "conditions": [
            {
              "fn": "booleanEquals",
              "argv": [
                {
                  "ref": "UseFIPS"
                },
                true
              ]
            },
            {
              "fn": "booleanEquals",
              "argv": [
                {
                  "ref": "UseDualStack"
                },
                true
              ]
            }
          ]
        }
      ]
    }
  ],
  "rules": [
    {
      "conditions": [
        {
          "fn": "booleanEquals",
          "argv": [
            true,
            {

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        "fn": "getAttr",
        "argv": [
            {
                "ref": "PartitionResult"
            }
        ],
        "supportsFIPS"
    ]
}
],
{
    "fn": "booleanEquals",
    "argv": [
        true,
        {
            "fn": "getAttr",
            "argv": [
                {
                    "ref": "PartitionResult"
                },
                "supportsDualStack"
            ]
        }
    ]
}
],
"rules": [
    {
        "conditions": [],

"rules": [

        {
            "conditions": [],
            "endpoint": {
                "url": "https://license-manager-linux-subscriptions-
fips.{Region}.{PartitionResult#dualStackDnsSuffix}",
                "properties": {},
                "headers": {}
            },
            "type": "endpoint"
        }
    ],

    "type": "tree"
}
],

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        "type": "tree"
      },
      {
        "conditions": [],
        "error": "FIPS and DualStack are enabled, but this partition does not support
one or both",
        "type": "error"
      }
    ],
    "type": "tree"
  },
  {
    "conditions": [
      {
        "fn": "booleanEquals",
        "argv": [
          {
            "ref": "UseFIPS"
          },
          true
        ]
      }
    ],
    "rules": [
      {
        "conditions": [
          {
            "fn": "booleanEquals",
            "argv": [
              {
                "fn": "getAttr",
                "argv": [
                  {
                    "ref": "PartitionResult"
                  },
                  "supportsFIPS"
                ]
              },
              true
            ]
          }
        ],
        "rules": [
          {
            "conditions": [],

```

```

        "rules": [
            {
                "conditions": [],
                "endpoint": {
                    "url": "https://license-manager-linux-subscriptions-
fips.{Region}.{PartitionResult#dnsSuffix}",

                "properties": {},

                "headers": {}
            },
            "type": "endpoint"
        }
    ],
    "type": "tree"
}
],
"type": "tree"
},
{
    "conditions": [],
    "error": "FIPS is enabled
but this partition does not support FIPS",
    "type": "error"
}
],
"type": "tree"
},
{
    "conditions": [
        {
            "fn": "booleanEquals",
            "argv": [
                {
                    "ref": "UseDualStack"
                },
                true
            ]
        }
    ]
}
],
"rules": [
    {
        "conditions": [
            {
                "fn": "booleanEquals",
                "argv": [
                    true,
                    {

```

```

        "fn": "getAttr",
        "argv": [
            {
                "ref": "PartitionResult"
            },
            "supportsDualStack"
        ]
    }
]
},
"rules": [
    {
        "conditions": [],
        "rules": [
            {
                "conditions": [],
                "endpoint": {
                    "url": "https://license-manager-linux-
subscriptions.{Region}.{PartitionResult#dualStackDnsSuffix}",
                    "properties": {},
                    "headers": {}
                },
                "type": "endpoint"
            }
        ],
        "type": "tree"
    }
],
    "type": "tree"
},
{
    "conditions": [],
    "error": "DualStack is enabled but this partition does not support DualStack",
    "type": "error"
}
],
    "type": "tree"
},
{
    "conditions": [],
    "rules": [
        {
            "conditions": [],
            "endpoint": {

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```

        "url": "https://license-manager-linux-
subscriptions.{Region}.{PartitionResult#dnsSuffix}",
        "properties": {},
        "headers": {}
    },
    "type": "endpoint"
}
],
"type": "tree"
}
],
"type": "tree"
}
],
"type": "tree"
},
{
    "conditions": [],
    "error": "Invalid Configuration: Missing Region",
    "type": "error"
}
],
"type": "tree"
}
]
},
"smithy.rules#endpointTests": {
    "testCases": [
        {
            "documentation": "For region us-east-1 with FIPS enabled and DualStack enabled",
            "expect": {
                "endpoint": {
                    "url": "https://license-manager-linux-subscriptions-fips.us-east-1.api.aws"
                }
            }
        },
        {
            "documentation": "For region us-east-1 with FIPS enabled and DualStack disabled",
            "expect": {
                "endpoint": {
                    "url": "https://license-manager-linux-subscriptions-fips.us-east-1.amazonaws.com"
                }
            }
        }
    ]
}

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```

    },
    "params": {
      "Region": "us-east-1",
      "UseFIPS": true,
      "UseDualStack": false
    }
  },
  {
    "documentation": "For region us-east-1 with FIPS disabled and DualStack enabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-linux-subscriptions.us-east-1.api.aws"
      }
    },
    "params": {
      "Region": "us-east-1",
      "UseFIPS": false,
      "UseDualStack": true
    }
  },
  {
    "documentation": "For region us-east-1 with FIPS disabled and DualStack disabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-linux-subscriptions.us-east-1.amazonaws.com"
      }
    },
    "params": {
      "Region": "us-east-1",
      "UseFIPS": false,
      "UseDualStack": false
    }
  },
  {
    "documentation": "For region cn-north-1 with FIPS enabled and DualStack enabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-linux-subscriptions-fips.cn-north-1.api.amazonwebservices.com.cn"
      }
    },
    "params": {
      "Region": "cn-north-1",
      "UseFIPS": true,
      "UseDualStack": true
    }
  }
}

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```

    },
    {
        "documentation": "For region cn-north-1 with FIPS enabled and DualStack disabled",
        "expect": {
            "endpoint": {
                "url": "https://license-manager-linux-subscriptions-fips.cn-north-1.amazonaws.com.cn"
            }
        },
        "params": {
            "Region": "cn-north-1",
            "UseFIPS": true,
            "UseDualStack": false
        }
    },
    {
        "documentation": "For region cn-north-1 with FIPS disabled and DualStack enabled",
        "expect": {
            "endpoint": {
                "url": "https://license-manager-linux-subscriptions.cn-north-1.api.amazonwebservices.com.cn"
            }
        },
        "params": {
            "Region": "cn-north-1",
            "UseFIPS": false,
            "UseDualStack": true
        }
    },
    {
        "documentation": "For region cn-north-1 with FIPS disabled and DualStack disabled",
        "expect": {
            "endpoint": {
                "url": "https://license-manager-linux-subscriptions.cn-north-1.amazonaws.com.cn"
            }
        },
        "params": {
            "Region": "cn-north-1",
            "UseFIPS": false,
            "UseDualStack": false
        }
    },
    {
        "documentation": "For region us-gov-east-1 with FIPS enabled and DualStack enabled",
        "expect": {
            "endpoint": {
                "url": "https://license-manager-linux-subscriptions-fips.us-gov-east-1.api.aws"
            }
        }
    }

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```

    },
    "params": {
      "Region": "us-gov-east-1",
      "UseFIPS": true,
      "UseDualStack": true
    }
  },
  {
    "documentation": "For region us-gov-east-1 with FIPS enabled and DualStack disabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-linux-subscriptions-fips.us-gov-east-1.amazonaws.com"
      }
    }
  },
  {
    "params": {
      "Region": "us-gov-east-1",
      "UseFIPS": true,
      "UseDualStack": false
    }
  },
  {
    "documentation": "For region us-gov-east-1 with FIPS disabled and DualStack enabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-linux-subscriptions.us-gov-east-1.api.aws"
      }
    }
  },
  {
    "params": {
      "Region": "us-gov-east-1",
      "UseFIPS": false,
      "UseDualStack": true
    }
  },
  {
    "documentation": "For region us-gov-east-1 with FIPS disabled and DualStack disabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-linux-subscriptions.us-gov-east-1.amazonaws.com"
      }
    }
  },
  {
    "params": {
      "Region": "us-gov-east-1",
      "UseFIPS": false,
      "UseDualStack": false
    }
  },
  },

```

```

{
  "documentation": "For region us-iso-east-1 with FIPS enabled and DualStack enabled",
  "expect": {
    "error": "FIPS and DualStack are enabled, but this partition does not support one or both"
  },
  "params": {

"Region": "us-iso-east-1",
    "UseFIPS": true,
    "UseDualStack": true
  }
},
{
  "documentation": "For region us-iso-east-1 with FIPS enabled and DualStack disabled",
  "expect": {
    "endpoint": {
      "url": "https://license-manager-linux-subscriptions-fips.us-iso-east-1.c2s.ic.gov"
    }
  },
  "params": {
    "Region": "us-iso-east-1",
    "UseFIPS": true,
    "UseDualStack": false
  }
},
{
  "documentation": "For region us-iso-east-1 with FIPS disabled and DualStack
enabled",
  "expect": {
    "error": "DualStack is enabled but this partition does not support DualStack"
  },
  "params": {
    "Region": "us-iso-east-1",
    "UseFIPS": false,
    "UseDualStack": true
  }
},
{
  "documentation": "For region us-iso-east-1 with FIPS disabled and DualStack disabled",
  "expect": {
    "endpoint": {
      "url": "https://license-manager-linux-subscriptions.us-iso-east-1.c2s.ic.gov"
    }
  },
  "params": {
    "Region": "us-iso-east-1",
    "UseFIPS":

```


false,

```
    "UseDualStack": false
  }
},
{
  "documentation": "For region us-isob-east-1 with FIPS enabled and DualStack enabled",
  "expect": {
    "error": "FIPS and DualStack are enabled, but this partition does not support one or both"
  },
  "params": {
    "Region": "us-isob-east-1",
    "UseFIPS": true,
    "UseDualStack": true
  }
},
{
  "documentation": "For region us-isob-east-1 with FIPS enabled and DualStack disabled",
  "expect": {
    "endpoint": {
      "url": "https://license-manager-linux-subscriptions-fips.us-isob-east-1.sc2s.sgov.gov"
    }
  },
  "params": {
    "Region": "us-isob-east-1",
    "UseFIPS": true,
    "UseDualStack": false
  }
},
{
  "documentation": "For region us-isob-east-1 with FIPS disabled and DualStack enabled",
  "expect": {
    "error": "DualStack is enabled but this partition does not support DualStack"
  },
  "params": {
    "Region": "us-isob-east-1",
    "UseFIPS": false,
    "UseDualStack": true
  }
},
{
  "documentation": "For region us-isob-east-1 with FIPS disabled and DualStack disabled",
  "expect": {
    "endpoint": {
      "url": "https://license-manager-linux-subscriptions.us-isob-east-1.sc2s.sgov.gov"
    }
  },
  "params": {
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        "Region": "us-isob-east-1",
        "UseFIPS": false,
        "UseDualStack": false
    }
},
{
    "documentation": "For custom endpoint with region set and fips disabled and dualstack disabled",
    "expect": {
        "endpoint": {
            "url": "https://example.com"
        }
    },
    "params": {
        "Region": "us-east-1",
        "UseFIPS": false,
        "UseDualStack": false,
        "Endpoint": "https://example.com"
    }
},
{
    "documentation": "For custom endpoint with region not set and fips disabled and dualstack
disabled",
    "expect": {
        "endpoint": {
            "url": "https://example.com"
        }
    },
    "params": {
        "UseFIPS": false,
        "UseDualStack": false,
        "Endpoint": "https://example.com"
    }
},
{
    "documentation": "For custom endpoint with fips enabled and dualstack disabled",
    "expect": {
        "error": "Invalid Configuration: FIPS and custom endpoint are not supported"
    },
    "params": {
        "Region": "us-east-1",
        "UseFIPS": true,
        "UseDualStack": false,
        "Endpoint": "https://example.com"
    }
},
{

```

```

        "documentation": "For custom endpoint with fips disabled and dualstack enabled",
        "expect": {
            "error": "Invalid Configuration: Dualstack and custom endpoint are not supported"
        },
        "params": {
            "Region": "us-east-1",
            "UseFIPS": false,
            "UseDualStack": true,
            "Endpoint": "https://example.com"
        }
    },
    {
        "documentation": "Missing region",
        "expect": {
            "error": "Invalid Configuration: Missing Region"
        }
    }
],
"version": "1.0"
}
},
"com.amazonaws.licensemanagerlinuxsubscriptions#LinuxSubscriptionsDiscovery": {
    "type": "string",
    "traits": {
        "smithy.api#enum": [
            {
                "name": "Enabled",
                "value": "Enabled",
                "documentation": "Enabled LinuxSubscriptionsDiscovery"
            },
            {
                "name": "Disabled",
                "value": "Disabled",
                "documentation": "Disabled LinuxSubscriptionsDiscovery"
            }
        ]
    }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#LinuxSubscriptionsDiscoverySettings": {
    "type": "structure",
    "members": {
        "SourceRegions": {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#StringList",
            "traits": {
                "smithy.api#documentation": "<p>The Regions in which to discover data for Linux

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subscriptions.</p>",
    "smithy.api#required": {}
  },
  "OrganizationIntegration": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#OrganizationIntegration",
    "traits": {
      "smithy.api#documentation":
"<p>Details if you have enabled resource discovery across your accounts in Organizations.</p>",
      "smithy.api#required": {}
    }
  },
  "traits": {
    "smithy.api#documentation": "<p>Lists the settings defined for discovering Linux subscriptions.</p>"
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptionInstances": {
    "type": "operation",
    "input": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptionInstancesRequest"
    },
    "output": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptionInstancesResponse"
    },
    "errors": [
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerErrorException"
      },
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ThrottlingException"
      },
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ValidationException"
      }
    ],
    "traits": {
      "smithy.api#documentation": "<p>Lists the running Amazon EC2 instances that were discovered with
commercial Linux\n  subscriptions.</p>",
      "smithy.api#http": {
        "code": 200,
        "method": "POST",
        "uri": "/subscription/ListLinuxSubscriptionInstances"
      },
      "smithy.api#idempotent": {},
      "smithy.api#paginated": {
        "inputToken": "NextToken",

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        "outputToken": "NextToken",
        "pageSize": "MaxResults",
        "items": "Instances"
    }
},
"com.amazonaws.licenseanagerlinuxsubscriptions#ListLinuxSubscriptionInstancesRequest":
{
    "type": "structure",
    "members": {
        "Filters": {
            "target": "com.amazonaws.licenseanagerlinuxsubscriptions#FilterList",
            "traits": {
                "smithy.api#documentation": "<p>An array of structures that you can use to filter the results by your
specified criteria. \n \tFor example, you can specify <code>Region</code> in the <code>Name</code>, with the
\n \t<code>contains</code> operator to list all subscriptions that match a partial string in the \n
\n \t<code>Value</code>, such as <code>us-west</code>.</p>\n        <p>For each filter, you can specify one of the
following values for the <code>Name</code> key \n \tto streamline results:</p>\n        <ul>\n            <li>\n
<p>\n                <code>AccountID</code>\n                </p>\n                </li>\n                <li>\n
<p>\n                <code>AmiID</code>\n                </p>\n                </li>\n                <li>\n
<p>\n                <code>DualSubscription</code>\n                </p>\n                </li>\n                <li>\n
<p>\n                <code>InstanceID</code>\n                </p>\n                </li>\n                <li>\n
<p>\n                <code>InstanceType</code>\n                </p>\n                </li>\n                <li>\n
<p>\n                <code>ProductCode</code>\n                </p>\n                </li>\n                <li>\n
<p>\n                <code>Region</code>\n                </p>\n                </li>\n                <li>\n
<p>\n                <code>Status</code>\n                </p>\n                </li>\n                <li>\n
<p>\n                <code>UsageOperation</code>\n                </p>\n                </li>\n            </ul>\n            <p>For each filter, you can use
one of the following <code>Operator</code>
values to \n \tto define the behavior of the filter:</p>\n        <ul>\n            <li>\n
<p>\n                <code>contains</code>\n                </p>\n                </li>\n            <li>\n
<p>\n                <code>equals</code>\n                </p>\n                </li>\n            <li>\n
<p>\n                <code>Notequal</code>\n                </p>\n                </li>\n        </ul>"
            }
        },
        "MaxResults": {
            "target": "com.amazonaws.licenseanagerlinuxsubscriptions#BoxInteger",
            "traits": {
                "smithy.api#documentation": "<p>The maximum items to return in a request.</p>"
            }
        },
        "NextToken": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>A token to specify where to
start paginating. This \n\tis the nextToken from a previously truncated response.</p>",
                "smithy.api#length": {
                    "min": 1,
                    "max": 16384
                }
            }
        }
    }
}

```

```

        }
    }
},
"traits": {
    "smithy.api#documentation": "NextToken length limit is half of ddb accepted limit.\nIncrease this limit if
parameters in request increases."
}
},
"com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptionInstancesResponse": {
    "type": "structure",
    "members": {
        "Instances": {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InstanceList",
            "traits": {
                "smithy.api#documentation": "<p>An array that contains instance objects.</p>"
            }
        },
        "NextToken": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>The next token used for paginated responses. When this \n\tfield
isn't empty, there are additional elements that the service hasn't \n\tincluded in this request. Use this token with the
next request to retrieve \n\tadditional objects.</p>"
            }
        }
    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptions": {
        "type": "operation",
        "input": {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptionsRequest"
        },
        "output": {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptionsResponse"
        },
        "errors": [
            {
                "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerException"
            },
            {
                "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ThrottlingException"
            },
            {
                "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ValidationException"
            }
        ]
    },

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    "traits": {
      "smithy.api#documentation": "<p>Lists the Linux subscriptions that have been discovered. If you have
linked your\n    organization, the returned results will include data aggregated across your accounts in\n
Organizations.</p>",
      "smithy.api#http": {
        "code": 200,
        "method": "POST",
        "uri": "/subscription/ListLinuxSubscriptions"
      },
      "smithy.api#idempotent": {},
      "smithy.api#paginated": {
        "inputToken": "NextToken",
        "outputToken": "NextToken",
        "pageSize": "MaxResults",
      }
    },
    "items": "Subscriptions"
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptionsRequest": {
  "type": "structure",
  "members": {
    "Filters": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#FilterList",
      "traits": {
        "smithy.api#documentation": "<p>An array of structures that you can use to filter the results to those
that match one or\n    more sets of key-value pairs that you specify. For example, you can filter by the name of\n
<code>Subscription</code> with an optional operator to see subscriptions that match,\n    partially match, or don't
match a certain subscription's name.</p>\n    <p>The valid names for this filter are:</p>\n    <ul>\n
<li>\n    <p>\n    <code>Subscription</code>\n    </p>\n    </li>\n    </ul>\n
<p>The
valid Operators for this filter are:</p>\n    <ul>\n    <li>\n    <p>\n
<code>contains</code>\n    </p>\n    </li>\n    <li>\n    <p>\n
<code>>equals</code>\n    </p>\n    </li>\n    <li>\n    <p>\n
<code>NotEqual</code>\n    </p>\n    </li>\n    </ul>"
      }
    },
    "MaxResults": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#BoxInteger",
      "traits": {
        "smithy.api#documentation": "<p>The maximum items to return in a request.</p>"
      }
    },
    "NextToken": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>A token to specify where to start paginating. This \n\tis

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the nextToken from a previously truncated response.</p>",

```
    "smithy.api#length": {
      "min": 1,
      "max": 16384
    }
  }
},
"traits": {
  "smithy.api#documentation": "NextToken length limit is half of ddb accepted limit.\nIncrease this limit if
parameters in request increases."
}
},
"com.amazonaws.licensemanagerlinuxsubscriptions#ListLinuxSubscriptionsResponse": {
  "type": "structure",
  "members": {
    "Subscriptions": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionList",
      "traits": {
        "smithy.api#documentation": "<p>An array that contains subscription objects.</p>"
      }
    },
    "NextToken": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The next token used for paginated responses. When this \n\tfield
isn't empty, there are additional elements that the service hasn't \n\tincluded in this request. Use this token with the
next request to retrieve \n\tadditional objects.</p>"
      }
    }
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#ListRegisteredSubscriptionProviders": {
  "type": "operation",
  "input": {
    "target":
"com.amazonaws.licensemanagerlinuxsubscriptions#ListRegisteredSubscriptionProvidersRequest"
  },
  "output": {
    "target":
"com.amazonaws.licensemanagerlinuxsubscriptions#ListRegisteredSubscriptionProvidersResponse"
  },
  "errors": [
    {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerException"
    }
  ]
}
```



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        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ThrottlingException"
    },
    {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ValidationException"
    }
],
"traits": {
    "smithy.api#documentation": "<p>List Bring Your Own License (BYOL) subscription registration
resources for your account.</p>",
    "smithy.api#http": {
        "code": 200,
        "method": "POST",
        "uri": "/subscription/ListRegisteredSubscriptionProviders"
    },
    "smithy.api#idempotent": {},
    "smithy.api#paginated": {
        "inputToken": "NextToken",
        "outputToken": "NextToken",
        "pageSize": "MaxResults",
        "items": "RegisteredSubscriptionProviders"
    }
}

},
"com.amazonaws.licensemanagerlinuxsubscriptions#ListRegisteredSubscriptionProvidersRequest": {
    "type": "structure",
    "members": {
        "SubscriptionProviderSources": {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderSourceList",
            "traits": {
                "smithy.api#documentation": "<p>To filter your results, specify which subscription providers to
return \n\t\t\t\tin the list.</p>"
            }
        },
        "MaxResults": {
            "target": "com.amazonaws.licensemanagerlinuxsubscriptions#BoxInteger",
            "traits": {
                "smithy.api#documentation": "<p>The maximum items to return in a request.</p>",
                "smithy.api#range": {
                    "min": 1,
                    "max": 100
                }
            }
        }
    },
    "NextToken": {
        "target": "smithy.api#String",
        "traits": {

```

```
"smithy.api#documentation": "<p>A token to specify where to start paginating. This \n\tis the  
nextToken from a previously truncated response.</p>"  
    }  
  },  
  "traits": {  
    "smithy.api#input": {}  
  },  
  "com.amazonaws.licensemanagerlinuxsubscriptions#ListRegisteredSubscriptionProvidersResponse": {  
    "type": "structure",  
    "members": {  
      "RegisteredSubscriptionProviders": {  
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#RegisteredSubscriptionProviderList",  
        "traits": {  
          "smithy.api#documentation": "<p>The list of BYOL registration resources that fit the criteria  
\n\t\t\tyou specified in the request.</p>"  
        }  
      },  
  
      "NextToken": {  
        "target": "smithy.api#String",  
        "traits": {  
          "smithy.api#documentation": "<p>The next token used for paginated responses. When this \n\tfield  
isn't empty, there are additional elements that the service hasn't \n\tincluded in this request. Use this token with the  
next request to retrieve \n\tadditional objects.</p>"  
        }  
      },  
  
      "traits": {  
        "smithy.api#output": {}  
      }  
    },  
    "com.amazonaws.licensemanagerlinuxsubscriptions#ListTagsForResource": {  
      "type": "operation",  
      "input": {  
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListTagsForResourceRequest"  
      },  
      "output": {  
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ListTagsForResourceResponse"  
      },  
      "errors": [  
        {  
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerException"  
        },  
        {  
          "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ResourceNotFoundException"
```



```

    "traits": {
      "smithy.api#enum": [
        {
          "name": "EQUAL",
          "value": "Equal",
          "documentation": "Equal operator"
        },
        {
          "name": "NOT_EQUAL",
          "value": "NotEqual",
          "documentation": "Not equal operator"
        },
        {
          "name": "CONTAINS",
          "value": "Contains",
          "documentation": "Contains operator"
        }
      ],
      "smithy.api#length": {
        "min": 1,
        "max": 20
      }
    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#OrganizationIntegration":
  {
    "type": "string",
    "traits": {
      "smithy.api#enum": [
        {
          "name": "Enabled",
          "value": "Enabled",
          "documentation": "Enabled OrganizationIntegration"
        },
        {
          "name": "Disabled",
          "value": "Disabled",
          "documentation": "Disabled OrganizationIntegration"
        }
      ]
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#ProductCodeList": {
    "type": "list",
    "member": {
      "target": "smithy.api#String"
    }
  },

```



```

    }
  },
  "Tags": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#Tags",
    "traits": {
      "smithy.api#documentation": "<p>The metadata tags to assign to your registered Linux subscription
provider \n\t\t\tresource.</p>"
    }
  }
},
"traits": {
  "smithy.api#input": {}
}
},
"com.amazonaws.licensemanagerlinuxsubscriptions#RegisterSubscriptionProviderResponse": {
  "type": "structure",
  "members": {
    "SubscriptionProviderSource": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderSource",
      "traits": {
        "smithy.api#documentation":
"<p>The Linux subscription provider that you registered.</p>"
      }
    },
    "SubscriptionProviderArn": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the Linux subscription
provider resource that you registered.</p>"
      }
    },
    "SubscriptionProviderStatus": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderStatus",
      "traits": {
        "smithy.api#documentation": "<p>Indicates the status of the registration action for the Linux
subscription provider \n\t\t\t\tthat you requested.</p>"
      }
    }
  },
  "traits": {
    "smithy.api#output": {}
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#RegisteredSubscriptionProvider":
{
  "type": "structure",
  "members": {
    "SubscriptionProviderArn": {

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```

    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderArn",
    "traits": {
        "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the Linux subscription
provider resource that you registered.</p>"
    }
},
"SubscriptionProviderSource": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderSource",
    "traits": {
        "smithy.api#documentation": "<p>A supported third-party Linux subscription provider. License
Manager currently supports \n\t\t\tRed Hat subscriptions.</p>"
    }
},
"SecretArn": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SecretArn",
    "traits": {
        "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the Secrets Manager secret
that stores your registered Linux subscription provider \n\t\t\taccess token. For RHEL account subscriptions, this is
the offline token.</p>"
    }
},
"SubscriptionProviderStatus": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderStatus",
    "traits": {
        "smithy.api#documentation": "<p>Indicates the status of your registered Linux subscription provider
access token \n\t\t\tfrom the last time License Manager retrieved subscription data. For RHEL account subscriptions,
\n\t\t\tthis is the status of the offline token.</p>"
    }
},
"SubscriptionProviderStatusMessage": {
    "target": "smithy.api#String",
    "traits": {
        {
            "smithy.api#documentation": "<p>A detailed message that's associated with your BYOL subscription
\n\t\t\tprovider token status.</p>"
        }
    },
    "LastSuccessfulDataRetrievalTime": {
        "target": "smithy.api#String",
        "traits": {
            "smithy.api#documentation": "<p>The timestamp from the last time that License Manager accessed
third-party subscription data \n\t\t\tfor your account from your registered Linux subscription provider.</p>"
        }
    }
},
"traits": {
    "smithy.api#documentation": "<p>A third-party provider for operating system (OS) platform software and
license \n\t\t\tsubscriptions, such as Red Hat. When you register a third-party Linux subscription \n\t\t\tprovider,"

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License Manager can get subscription data from the registered provider.</p>"

```
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#RegisteredSubscriptionProviderList":
  {
    "type": "list",
    "member": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#RegisteredSubscriptionProvider"
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#ResourceNotFoundException": {
    "type": "structure",
    "members": {
      "message": {
        "target": "smithy.api#String"
      }
    },
    "traits": {
      "smithy.api#documentation": "<p>Unable to find the requested Amazon Web Services resource.</p>",
      "smithy.api#error": "client"
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#SecretArn": {
    "type": "string",
    "traits": {
      "smithy.api#pattern": "^arn:[a-z0-9-\\.]{1,63}:secretsmanager:[a-z0-9-\\.]{0,63}:secret:[^/]{1,1023}$"
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#Status": {
    "type": "string",
    "traits": {
      "smithy.api#enum": [
        {
          "name": "InProgress",
          "value": "InProgress",
          "documentation": "InProgress status"
        },
        {
          "name": "Completed",
          "value": "Completed",
          "documentation": "Completed status"
        },
        {
          "name": "Successful",
          "value": "Successful",
          "documentation": "Successful status"
        }
      ]
    }
  }
}
```



```

    },
    {
      "name": "Failed",
      "value": "Failed",
      "documentation": "Failed status"
    }
  ]
}
},

"com.amazonaws.licensemanagerlinuxsubscriptions#StringList": {
  "type": "list",
  "member": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#length": {
        "min": 1,
        "max": 100
      }
    }
  },
  "traits": {
    "smithy.api#length": {
      "min": 1,
      "max": 100
    },
    "smithy.api#uniqueItems": {}
  }
},

"com.amazonaws.licensemanagerlinuxsubscriptions#StringMap": {
  "type": "map",
  "key": {
    "target": "smithy.api#String"
  },
  "value": {
    "target": "smithy.api#String"
  }
},

"com.amazonaws.licensemanagerlinuxsubscriptions#Subscription": {
  "type": "structure",
  "members": {
    "Name":
{
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The name of the subscription.</p>"
      }
    },
  },

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    "Type": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The type of subscription. The type can be subscription-included
with Amazon EC2, Bring Your Own\n    Subscription model (BYOS), or from the Amazon Web Services
Marketplace. Certain subscriptions may use licensing from the\n    Amazon Web Services Marketplace as well as
OS licensing from Amazon EC2 or BYOS.</p>"
      }
    },
    "InstanceCount": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#BoxLong",
      "traits": {
        "smithy.api#documentation": "<p>The total amount of running instances using this
subscription.</p>"
      }
    },
    "traits": {
      "smithy.api#documentation": "<p>An object which details a discovered Linux subscription.</p>"
    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionList": {
      "type": "list",
      "member": {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#Subscription"
      }
    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderArn": {
      "type": "string",
      "traits": {
        "smithy.api#pattern": "^arn:[a-z0-9-\\.]{1,63}:[a-z0-9-\\.]{1,63}:[a-z0-9-\\.]{1,63}:[a-z0-
9-\\.]{1,510}/[a-z0-9-\\.]{1,510}$"
      }
    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderSource": {
      "type": "string",
      "traits": {
        "smithy.api#enum": [
{
      "name": "RedHat",
      "value": "RedHat",
      "documentation": "RedHat subscription provider namespace"
    }
]
        ]
      }
    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderSourceList": {

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    "type": "list",
    "member": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderSource"
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderStatus": {
    "type": "string",
    "traits": {
      "smithy.api#enum": [
        {
          "name": "ACTIVE",
          "value": "ACTIVE",
          "documentation": "ACTIVE status"
        },
        {
          "name": "INVALID",
          "value": "INVALID",

"documentation": "INVALID status"
        },
        {
          "name": "PENDING",
          "value": "PENDING",
          "documentation": "PENDING status"
        }
      ]
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#TagKeyList": {
    "type": "list",
    "member": {
      "target": "smithy.api#String"
    },
    "traits": {
      "smithy.api#length": {
        "min": 0,
        "max": 50
      },
      "smithy.api#sensitive": {}
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#TagResource": {
    "type": "operation",
    "input": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#TagResourceRequest"
    },
    "output": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#TagResourceResponse"
    }
  }
}

```



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},
"com.amazonaws.licensemanagerlinuxsubscriptions#TagResourceResponse": {
  "type": "structure",
  "members": {},
  "traits": {
    "smithy.api#output": {}
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#Tags": {
  "type": "map",
  "key": {
    "target": "smithy.api#String"
  },
  "value": {
    "target": "smithy.api#String"
  },
  "traits": {
    "smithy.api#length": {
      "min": 0,
      "max": 50
    },
    "smithy.api#sensitive": {}
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#ThrottlingException": {
  "type": "structure",
  "members": {
    "message": {
      "target": "smithy.api#String"
    }
  },
  "traits": {
    "smithy.api#documentation":
    "<p>The request was denied due to request throttling.</p>",
    "smithy.api#error": "client"
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#UntagResource": {
  "type": "operation",
  "input": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#UntagResourceRequest"
  },
  "output": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#UntagResourceResponse"
  },
  "errors": [
    {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerError"
    }
  ]
}

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    },
    {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ResourceNotFoundException"
    }
  ],
  "traits": {
    "smithy.api#documentation": "<p>Remove one or more metadata tag from the specified Amazon Web Services resource.</p>",
    "smithy.api#http": {
      "method": "DELETE",
      "uri": "/tags/{resourceArn}"
    },
    "smithy.api#idempotent": {}
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#UntagResourceRequest": {
  "type": "structure",
  "members": {
    "resourceArn": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#SubscriptionProviderArn",
      "traits": {
        "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the Amazon Web Services resource to remove the metadata tags from.</p>",
        "smithy.api#httpLabel": {},
        "smithy.api#required": {}
      }
    },
    "tagKeys": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#TagKeyList",
      "traits": {
        "smithy.api#documentation": "<p>A list of metadata tag keys to remove from the requested resource.</p>",
        "smithy.api#httpQuery": "tagKeys",
        "smithy.api#required": {}
      }
    }
  },
  "traits": {
    "smithy.api#input": {}
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#UntagResourceResponse": {
  "type": "structure",
  "members": {},
  "traits": {
    "smithy.api#output": {}
  }
}

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```

    },
    "com.amazonaws.licensemanagerlinuxsubscriptions#UpdateServiceSettings": {
      "type": "operation",
      "input": {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#UpdateServiceSettingsRequest"
      },
      "output": {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#UpdateServiceSettingsResponse"
      }
    },
    "errors": [
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#InternalServerErrorException"
      },
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ThrottlingException"
      },
      {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#ValidationException"
      }
    ],
    "traits": {
      "smithy.api#documentation": "<p>Updates the service settings for Linux subscriptions.</p>",
      "smithy.api#http": {
        "code": 200,
        "method": "POST",
        "uri": "/subscription/UpdateServiceSettings"
      },
      "smithy.api#idempotent": {}
    }
  },
  "com.amazonaws.licensemanagerlinuxsubscriptions#UpdateServiceSettingsRequest": {
    "type": "structure",
    "members": {
      "LinuxSubscriptionsDiscovery": {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#LinuxSubscriptionsDiscovery",
        "traits": {
          "smithy.api#documentation": "<p>Describes if the discovery of Linux subscriptions is enabled.</p>",
          "smithy.api#required": {}
        }
      },
      "LinuxSubscriptionsDiscoverySettings": {
        "target": "com.amazonaws.licensemanagerlinuxsubscriptions#LinuxSubscriptionsDiscoverySettings",
        "traits": {
          "smithy.api#documentation": "<p>The settings defined for Linux subscriptions discovery. The settings include if Organizations\n    integration has been enabled, and which Regions data will be aggregated from.</p>",
          "smithy.api#required": {}
        }
      }
    }
  }
}

```

```

    }
  },
  "AllowUpdate": {
    "target":
"smithy.api#Boolean",
    "traits": {
      "smithy.api#documentation": "<p>Describes if updates are allowed to the service settings for Linux
subscriptions. If you\n    allow updates, you can aggregate Linux subscription data in more than one home
Region.</p>"
    }
  }
},
"com.amazonaws.licensemanagerlinuxsubscriptions#UpdateServiceSettingsResponse": {
  "type": "structure",
  "members": {
    "LinuxSubscriptionsDiscovery": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#LinuxSubscriptionsDiscovery",
      "traits": {
        "smithy.api#documentation": "<p>Lists if discovery has been enabled for Linux subscriptions.</p>"
      }
    },
    "LinuxSubscriptionsDiscoverySettings": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#LinuxSubscriptionsDiscoverySettings",
      "traits": {
        "smithy.api#documentation": "<p>The settings defined for Linux subscriptions discovery. The
settings include if Organizations\n    integration has been enabled, and which Regions data will be aggregated
from.</p>"
      }
    },
    "Status": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#Status",
      "traits": {
        "smithy.api#documentation": "<p>Indicates the status of Linux subscriptions settings being
applied.</p>"
      }
    },
    "StatusMessage": {
      "target": "com.amazonaws.licensemanagerlinuxsubscriptions#StringMap",
      "traits": {
        "smithy.api#documentation": "<p>A message which details the Linux subscriptions service settings
current status.</p>"
      }
    }
  },
  "HomeRegions": {
    "target": "com.amazonaws.licensemanagerlinuxsubscriptions#StringList",
    "traits": {

```



```

        "smithy.api#documentation": "<p>The Region in which License Manager displays the aggregated
data for Linux\n    subscriptions.</p>"
    }
}
},
"com.amazonaws.licensemanagerlinuxsubscriptions#ValidationException": {
    "type": "structure",
    "members": {
        "message": {
            "target": "smithy.api#String"
        }
    },
    "traits": {
        "smithy.api#documentation": "<p>The provided input is not valid. Try your request again.</p>",
        "smithy.api#error": "client"
    }
}
}
}
// Code generated by smithy-go-codegen DO NOT EDIT.

```

```
package grafana
```

```

import (
    "context"
    "fmt"
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"
    "github.com/aws/aws-sdk-go-v2/service/grafana/types"
    "github.com/aws/smithy-go/middleware"
    smithyhttp "github.com/aws/smithy-go/transport/http"
)

```

```

// Assigns a Grafana Enterprise license to a workspace. To upgrade, you must use
// ENTERPRISE for the licenseType , and pass in a valid Grafana Labs token for the
// grafanaToken . Upgrading to Grafana Enterprise incurs additional fees. For more
// information, see [Upgrade a workspace to Grafana Enterprise].
//
// [Upgrade a workspace to Grafana Enterprise]: https://docs.aws.amazon.com/grafana/latest/userguide/upgrade-to-
Grafana-Enterprise.html
func (c *Client) AssociateLicense(ctx context.Context, params *AssociateLicenseInput, optFns ...func(*Options))
(*AssociateLicenseOutput, error) {
    if params == nil {
        params = &AssociateLicenseInput{}
    }

    result, metadata, err := c.invokeOperation(ctx,

```

```

"AssociateLicense", params, optFns, c.addOperationAssociateLicenseMiddlewares)
if err != nil {
    return nil, err
}

out := result.(*AssociateLicenseOutput)
out.ResultMetadata = metadata
return out, nil
}

type AssociateLicenseInput struct {

    // The type of license to associate with the workspace.
    //
    // Amazon Managed Grafana workspaces no longer support Grafana Enterprise free
    // trials.
    //
    // This member is required.
    LicenseType types.LicenseType

    // The ID of the workspace to associate the license with.
    //
    // This member is required.
    WorkspaceId *string

    // A token from Grafana Labs that ties your Amazon Web Services account with a
    // Grafana Labs account. For more information, see [Link your account with Grafana Labs].
    //
    // [Link your account with Grafana Labs]: https://docs.aws.amazon.com/grafana/latest/userguide/upgrade-to-
    // Grafana-Enterprise.html#AMG-workspace-register-enterprise
    GrafanaToken *string

    noSmithyDocumentSerde
}

type AssociateLicenseOutput
struct {

    // A structure containing data about the workspace.
    //
    // This member is required.
    Workspace *types.WorkspaceDescription

    // Metadata pertaining to the operation's result.
    ResultMetadata middleware.Metadata

    noSmithyDocumentSerde
}

```

```

func (c *Client) addOperationAssociateLicenseMiddlewares(stack *middleware.Stack, options Options) (err error) {
    if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
        return err
    }
    err = stack.Serialize.Add(&awsRestjson1_serializeOpAssociateLicense{}, middleware.After)
    if err != nil {
        return err
    }
    err = stack.Deserialize.Add(&awsRestjson1_deserializeOpAssociateLicense{}, middleware.After)
    if err != nil {
        return err
    }
    if err := addProtocolFinalizerMiddlewares(stack, options, "AssociateLicense"); err != nil {
        return fmt.Errorf("add protocol finalizers: %v", err)
    }

    if err = addLegacyEndpointContextSetter(stack, options); err != nil {
        return err
    }
    if err = addSetLoggerMiddleware(stack,
options); err != nil {
        return err
    }
    if err = addClientRequestID(stack); err != nil {
        return err
    }
    if err = addComputeContentLength(stack); err != nil {
        return err
    }
    if err = addResolveEndpointMiddleware(stack, options); err != nil {
        return err
    }
    if err = addComputePayloadSHA256(stack); err != nil {
        return err
    }
    if err = addRetry(stack, options); err != nil {
        return err
    }
    if err = addRawResponseToMetadata(stack); err != nil {
        return err
    }
    if err = addRecordResponseTiming(stack); err != nil {
        return err
    }
    if err = addSpanRetryLoop(stack, options); err != nil {
        return err
    }
}

```

```

if err = addClientUserAgent(stack, options); err != nil {
    return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err != nil {
    return err
}
if err = addTimeOffsetBuild(stack,
c); err != nil {
    return err
}
if err = addUserAgentRetryMode(stack, options); err != nil {
    return err
}
if err = addCredentialSource(stack, options); err != nil {
    return err
}
if err = addOpAssociateLicenseValidationMiddleware(stack); err != nil {
    return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opAssociateLicense(options.Region),
middleware.Before); err != nil {
    return err
}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
if err = addResponseErrorMiddleware(stack); err != nil {
    return err
}
if err = addRequestResponseLogging(stack, options); err != nil {
    return err
}
if err = addDisableHTTPSMiddleware(stack, options); err != nil {
    return err
}
if err = addSpanInitializeStart(stack); err != nil {
    return err
}
if err = addSpanInitializeEnd(stack); err != nil {

```

```

    return err
}
if err = addSpanBuildRequestStart(stack);
err != nil {
    return err
}
if err = addSpanBuildRequestEnd(stack); err != nil {
    return err
}
return nil
}

func newServiceMetadataMiddleware_opAssociateLicense(region string)
*awsmiddleware.RegisterServiceMetadata {
return &awsmiddleware.RegisterServiceMetadata{
    Region:    region,
    ServiceID: ServiceID,
    OperationName: "AssociateLicense",
}
}
// Code generated by smithy-go-codegen DO NOT EDIT.

package licensemanager

import (
    "context"
    "fmt"
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"
    "github.com/aws/aws-sdk-go-v2/service/licensemanager/types"
    "github.com/aws/smithy-go/middleware"
    smithyhttp "github.com/aws/smithy-go/transport/http"
)

// Checks out the specified license.
//
// If the account that created the license is the same that is performing the
// check out, you must specify the account as the beneficiary.
func (c *Client) CheckoutLicense(ctx context.Context, params *CheckoutLicenseInput, optFns ...func(*Options))
(*CheckoutLicenseOutput, error) {
    if params == nil {
        params = &CheckoutLicenseInput{}
    }

    result, metadata, err := c.invokeOperation(ctx, "CheckoutLicense", params, optFns,
c.addOperationCheckoutLicenseMiddlewares)
    if err != nil {
        return nil, err
    }
}

```

```

out := result.(*CheckoutLicenseOutput)
out.ResultMetadata = metadata
return out, nil
}

type CheckoutLicenseInput struct {

    //
    Checkout type.
    //
    // This member is required.
    CheckoutType types.CheckoutType

    // Unique, case-sensitive identifier that you provide to ensure the idempotency of
    // the request.
    //
    // This member is required.
    ClientToken *string

    // License entitlements.
    //
    // This member is required.
    Entitlements []types.EntitlementData

    // Key fingerprint identifying the license.
    //
    // This member is required.
    KeyFingerprint *string

    // Product SKU.
    //
    // This member is required.
    ProductSKU *string

    // License beneficiary.
    Beneficiary *string

    // Node ID.
    NodeId *string

    noSmithyDocumentSerde
}

type CheckoutLicenseOutput struct {

    // Checkout type.
    CheckoutType types.CheckoutType

```

```

// Allowed license entitlements.
EntitlementsAllowed []types.EntitlementData

// Date and time at which the license checkout expires.
Expiration *string

// Date and time at which the license checkout is issued.
IssuedAt *string

// Amazon Resource Name (ARN) of the checkout license.
LicenseArn
*string

// License consumption token.
LicenseConsumptionToken *string

// Node ID.
NodeId *string

// Signed token.
SignedToken *string

// Metadata pertaining to the operation's result.
ResultMetadata middleware.Metadata

noSmithyDocumentSerde
}

func (c *Client) addOperationCheckoutLicenseMiddlewares(stack *middleware.Stack, options Options) (err error) {
    if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
        return err
    }
    err = stack.Serialize.Add(&awsAwsjson11_serializeOpCheckoutLicense{}, middleware.After)
    if err != nil {
        return err
    }
    err = stack.Deserialize.Add(&awsAwsjson11_deserializeOpCheckoutLicense{}, middleware.After)
    if err != nil {
        return err
    }
    if err := addProtocolFinalizerMiddlewares(stack, options, "CheckoutLicense"); err != nil {
        return fmt.Errorf("add protocol finalizers: %v", err)
    }

    if err = addLegacyEndpointContextSetter(stack, options); err != nil {
        return err
    }
}

```

```

if err = addSetLoggerMiddleware(stack,
options); err != nil {
    return err
}
if err = addClientRequestID(stack); err != nil {
    return err
}
if err = addComputeContentLength(stack); err != nil {
    return err
}
if err = addResolveEndpointMiddleware(stack, options); err != nil {
    return err
}
if err = addComputePayloadSHA256(stack); err != nil {
    return err
}
if err = addRetry(stack, options); err != nil {
    return err
}
if err = addRawResponseToMetadata(stack); err != nil {
    return err
}
if err = addRecordResponseTiming(stack); err != nil {
    return err
}
if err = addSpanRetryLoop(stack, options); err != nil {
    return err
}
if err = addClientUserAgent(stack, options); err != nil {
    return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err != nil {
    return err
}
if err = addTimeOffsetBuild(stack,
c); err != nil {
    return err
}
if err = addUserAgentRetryMode(stack, options); err != nil {
    return err
}
if err = addCredentialSource(stack, options); err != nil {

```



```

    return err
}
if err = addOpCheckoutLicenseValidationMiddleware(stack); err != nil {
    return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opCheckoutLicense(options.Region),
middleware.Before); err != nil {
    return err
}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
if err = addResponseErrorMiddleware(stack); err != nil {
    return err
}
if err = addRequestResponseLogging(stack, options); err != nil {
    return err
}
if err = addDisableHTTPSMiddleware(stack, options); err != nil {
    return err
}
if err = addSpanInitializeStart(stack); err != nil {
    return err
}
if err = addSpanInitializeEnd(stack); err != nil {
    return err
}
if err = addSpanBuildRequestStart(stack);
err != nil {
    return err
}
if err = addSpanBuildRequestEnd(stack); err != nil {
    return err
}
return nil
}

func newServiceMetadataMiddleware_opCheckoutLicense(region string) *awsmiddleware.RegisterServiceMetadata
{
    return &awsmiddleware.RegisterServiceMetadata{
        Region:    region,
        ServiceID: ServiceID,
        OperationName: "CheckoutLicense",
    }
}

```

CreateLicense
Initialize stack step
spanInitializeStart
RegisterServiceMetadata
legacyEndpointContextSetter
SetLogger
OperationInputValidation
spanInitializeEnd
Serialize stack step
spanBuildRequestStart
setOperationInput
ResolveEndpoint
OperationSerializer
Build stack step
ClientRequestID
ComputeContentLength
SetCredentialSourceMiddleware
UserAgent
AddTimeOffsetMiddleware
RecursionDetection
spanBuildRequestEnd
Finalize stack step
spanRetryLoop
Retry
RetryMetricsHeader
ResolveAuthScheme
GetIdentity
ResolveEndpointV2
disableHTTPS
ComputePayloadHash
setLegacyContextSigningOptions
Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody
CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming
RequestResponseLogger
GetLicense
Initialize stack step
spanInitializeStart
RegisterServiceMetadata
legacyEndpointContextSetter
SetLogger

OperationInputValidation
spanInitializeEnd
Serialize stack step
spanBuildRequestStart
setOperationInput
ResolveEndpoint
OperationSerializer
Build stack step
ClientRequestID
ComputeContentLength
SetCredentialSourceMiddleware
UserAgent
AddTimeOffsetMiddleware
RecursionDetection
spanBuildRequestEnd
Finalize stack step
spanRetryLoop
Retry
RetryMetricsHeader
ResolveAuthScheme
GetIdentity
ResolveEndpointV2
disableHTTPS
ComputePayloadHash
setLegacyContextSigningOptions
Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody
CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming
RequestResponseLogger

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```
{
  "smithy": "2.0",
  "shapes": {
    "com.amazonaws.licensemanagerusersubscriptions#AccessDeniedException": {
      "type": "structure",
      "members": {
        "message": {
          "target": "smithy.api#String"
        }
      },
      "traits": {
        "smithy.api#documentation": "<p>You don't have sufficient access to perform this action.</p>",
        "smithy.api#error": "client"
      }
    },
    "com.amazonaws.licensemanagerusersubscriptions#ActiveDirectoryIdentityProvider": {
      "type": "structure",
      "members": {
        "DirectoryId": {
          "target": "com.amazonaws.licensemanagerusersubscriptions#Directory",
          "traits": {
            "smithy.api#documentation": "<p>The directory ID for an Active Directory identity provider.</p>"
          }
        }
      },
      "ActiveDirectorySettings": {
        "target": "com.amazonaws.licensemanagerusersubscriptions#ActiveDirectorySettings",
        "traits": {
          "smithy.api#documentation": "<p>The <code>ActiveDirectorySettings</code> resource contains details about the Active Directory, including network access details such as domain name and IP addresses, and the credential provider for user administration.</p>"
        }
      }
    }
  }
}
```

```

    },
    "ActiveDirectoryType": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ActiveDirectoryType",
      "traits": {
        "smithy.api#documentation": "<p>The type of Active Directory either a self-managed Active
Directory or an \n\t\t\tAmazon Web Services Managed Active Directory.</p>"
      }
    },
    "traits": {
      "smithy.api#documentation": "<p>Details about an Active Directory identity
provider.</p>"
    },
    "com.amazonaws.licenseanagerusersubscriptions#ActiveDirectorySettings": {
      "type": "structure",
      "members": {
        "DomainName": {
          "target": "smithy.api#String",
          "traits": {
            "smithy.api#documentation": "<p>The domain name for the Active Directory.</p>"
          }
        },
        "DomainIpv4List": {
          "target": "com.amazonaws.licenseanagerusersubscriptions#Ipv4List",
          "traits": {
            "smithy.api#documentation": "<p>A list of domain IPv4 addresses that are used for the Active
Directory.</p>",
            "smithy.api#length": {
              "min": 1,
              "max": 2
            }
          }
        },
        "DomainCredentialsProvider": {
          "target":
"com.amazonaws.licenseanagerusersubscriptions#CredentialsProvider",
          "traits": {
            "smithy.api#documentation": "<p>Points to the <code>CredentialsProvider</code> resource that
contains \n\t\t\tinformation about the credential provider for user administration.</p>"
          }
        },
        "DomainNetworkSettings": {
          "target": "com.amazonaws.licenseanagerusersubscriptions#DomainNetworkSettings",
          "traits": {
            "smithy.api#documentation": "<p>The <code>DomainNetworkSettings</code> resource contains an
array of \n\t\t\tsubnets that apply for the Active Directory.</p>"
          }
        }
      }
    }
  }

```



```

    }
  },
  "IdentityProvider": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProvider",
    "traits": {
      "smithy.api#documentation": "<p>The identity provider for the user.</p>",
      "smithy.api#required": {}
    }
  },
  "Domain": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "The domain name of the Active Directory that contains
information for the user to associate.</p>"
    }
  },
  "Tags": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#Tags",
    "traits": {
      "smithy.api#documentation": "<p>The tags that apply for the user association.</p>"
    }
  },
  "traits": {
    "smithy.api#input": {}
  },
  "com.amazonaws.licenseanagerusersubscriptions#AssociateUserResponse": {
    "type": "structure",
    "members": {
      "InstanceUserSummary": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#InstanceUserSummary",
        "traits": {
          "smithy.api#documentation": "<p>Metadata that describes the associate user operation.</p>",
          "smithy.api#required": {}
        }
      }
    },
    "traits": {
      "smithy.api#output": {}
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#BoxInteger": {
    "type": "integer"
  },
  "com.amazonaws.licenseanagerusersubscriptions#ConflictException": {
    "type": "structure",

```



```

"members": {
  "message": {
    "target": "smithy.api#String"
  }
},
"traits": {
  "smithy.api#documentation": "<p>The request couldn't be completed because it conflicted with the current
state of the\n\t\t\tresource.</p>",
  "smithy.api#error": "server"
}
},
"com.amazonaws.licenseanagerusersubscriptions#CreateLicenseServerEndpoint": {
  "type": "operation",
  "input": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#CreateLicenseServerEndpointRequest"
  },
  "output": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#CreateLicenseServerEndpointResponse"
  },
  "errors": [
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#AccessDeniedException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ConflictException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerError"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ThrottlingException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
    }
  ],
  "traits": {
    "smithy.api#documentation": "<p>Creates a network endpoint for the Remote Desktop Services (RDS)
license server.</p>",
    "smithy.api#http": {
      "code": 200,

```



```

    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ThrottlingException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
    }
  ],
  "traits": {
    "smithy.api#documentation": "<p>Deletes a <code>LicenseServerEndpoint</code> resource.</p>",
    "smithy.api#http": {
      "code": 200,
      "method": "POST",
      "uri": "/license-server/DeleteLicenseServerEndpoint"
    },
    "smithy.api#idempotent": {}
  }
},
"com.amazonaws.licenseanagerusersubscriptions#DeleteLicenseServerEndpointRequest": {
  "type": "structure",
  "members": {
    "LicenseServerEndpointArn": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#Arn",
      "traits": {
        "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) that identifies the  
<code>LicenseServerEndpoint</code> \n\t\t\t\tresource to delete.</p>",
        "smithy.api#required": {}
      }
    },
    "ServerType": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServerType",
      "traits": {
        "smithy.api#documentation": "<p>The type of License Server that the delete request refers to.</p>",
        "smithy.api#required": {}
      }
    }
  },
  "traits": {
    "smithy.api#input": {}
  }
},

```

```

"com.amazonaws.licenseanagerusersubscriptions#DeleteLicenseServerEndpointResponse": {
  "type": "structure",
  "members": {
    "LicenseServerEndpoint": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#LicenseServerEndpoint",
      "traits": {
        "smithy.api#documentation": "<p>Shows details from the <code>LicenseServerEndpoint</code>
resource that was deleted.</p>"
      }
    }
  },
  "traits": {
    "smithy.api#output": {}
  }
},
"com.amazonaws.licenseanagerusersubscriptions#DeregisterIdentityProvider": {
  "type": "operation",
  "input": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#DeregisterIdentityProviderRequest"
  },
  "output": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#DeregisterIdentityProviderResponse"
  },
  "errors": [
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#AccessDeniedException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ConflictException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerError"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ThrottlingException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
    }
  ],
  "traits": {
    "smithy.api#documentation": "<p>Deregisters the Active Directory identity provider from License

```

```

Manager user-based subscriptions.</p>",
    "smithy.api#http": {
        "code": 200,
        "method": "POST",
        "uri": "/identity-provider/DeregisterIdentityProvider"
    },
    "smithy.api#idempotent": {}
}
},
"com.amazonaws.licenseanagerusersubscriptions#DeregisterIdentityProviderRequest":
{
    "type": "structure",
    "members": {
        "IdentityProvider": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProvider",
            "traits": {
                "smithy.api#documentation": "<p>An object that specifies details for the Active Directory identity
provider.</p>"
            }
        },
        "Product": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>The name of the user-based subscription product.</p>\n
<p>Valid values: <code>VISUAL_STUDIO_ENTERPRISE</code> |
<code>VISUAL_STUDIO_PROFESSIONAL</code> | <code>OFFICE_PROFESSIONAL_PLUS</code> |
\n<code>REMOTE_DESKTOP_SERVICES</code>\n      </p>"
            }
        },
        "IdentityProviderArn": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#Arn",
            "traits": {
                "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) that identifies the identity
provider to deregister.</p>"
            }
        }
    },
    "traits": {
        "smithy.api#input": {}
    }
},
"com.amazonaws.licenseanagerusersubscriptions#DeregisterIdentityProviderResponse": {
    "type": "structure",
    "members": {
        "IdentityProviderSummary": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProviderSummary",
            "traits": {
                "smithy.api#documentation": "<p>Metadata that describes the results of an identity provider

```

```

operation.</p>",
    "smithy.api#required": {}
  }
},
"traits": {
  "smithy.api#output": {}
}
},
"com.amazonaws.licenseanagerusersubscriptions#Directory": {
  "type": "string",
  "traits": {
    "smithy.api#pattern": "^(d|sd)-[0-9a-f]{10}$"
  }
},
"com.amazonaws.licenseanagerusersubscriptions#DisassociateUser": {
  "type": "operation",
  "input": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#DisassociateUserRequest"
  },
  "output": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#DisassociateUserResponse"
  },
  "errors": [
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#AccessDeniedException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ConflictException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerErrorException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ThrottlingException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
    }
  ],
  "traits": {

```

```

    "smithy.api#documentation": "<p>Disassociates the user from an EC2 instance providing user-based
subscriptions.</p>",
    "smithy.api#http": {
        "code": 200,
        "method": "POST",
        "uri": "/user/DisassociateUser"
    },
    "smithy.api#idempotent": {}
}
},
"com.amazonaws.licenseanagerusersubscriptions#DisassociateUserRequest": {
    "type": "structure",
    "members": {
        "Username": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>The user name from the Active Directory identity provider for the
user.</p>"
            }
        },
        "InstanceId": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>The ID of the EC2 instance which provides user-based
subscriptions.</p>"
            }
        },
        "IdentityProvider": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProvider",
            "traits": {
                "smithy.api#documentation": "<p>An object that specifies details for the Active
Directory identity provider.</p>"
            }
        },
        "InstanceUserArn": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#Arn",
            "traits": {
                "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the user to disassociate
from the EC2 instance.</p>"
            }
        },
        "Domain": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>The domain name of the Active Directory that contains
information for the user to disassociate.</p>"
            }
        }
    }
}

```



```

    }
  },
  "traits": {
    "smithy.api#input": {}
  }
},
"com.amazonaws.licenseanagerusersubscriptions#DisassociateUserResponse": {
  "type": "structure",
  "members": {
    "InstanceUserSummary":
{
      "target": "com.amazonaws.licenseanagerusersubscriptions#InstanceUserSummary",
      "traits": {
        "smithy.api#documentation": "<p>Metadata that describes the associate user operation.</p>",
        "smithy.api#required": {}
      }
    }
  },
  "traits": {
    "smithy.api#output": {}
  }
},
"com.amazonaws.licenseanagerusersubscriptions#DomainNetworkSettings": {
  "type": "structure",
  "members": {
    "Subnets": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#Subnets",
      "traits": {
        "smithy.api#documentation": "<p>Contains a list of subnets that apply for the Active Directory
domain.</p>",
        "smithy.api#length": {
          "min": 1
        },
        "smithy.api#required": {}
      }
    }
  },
  "traits": {
    "smithy.api#documentation": "<p>Contains network settings for the Active Directory domain.</p>"
  }
},
"com.amazonaws.licenseanagerusersubscriptions#Filter": {
  "type": "structure",
  "members": {
    "Attribute": {
      "target": "smithy.api#String",
      "traits": {

```



```

"com.amazonaws.licenseanagerusersubscriptions#IdentityProviderSummaryList": {
  "type": "list",
  "member": {

    "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProviderSummary"
  }
},
"com.amazonaws.licenseanagerusersubscriptions#InstanceSummary": {
  "type": "structure",
  "members": {
    "InstanceId": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The ID of the EC2 instance, which provides user-based
subscriptions.</p>",
        "smithy.api#required": {}
      }
    },
    "Status": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The status of an EC2 instance resource.</p>",
        "smithy.api#required": {}
      }
    },
    "Products": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#StringList",
      "traits": {
        "smithy.api#documentation": "<p>A list of provided user-based subscription products.</p>",
        "smithy.api#required": {}
      }
    },
    "LastStatusCheckDate": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The date of the last status check.</p>"
      }
    },
    "StatusMessage": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The status message for an EC2 instance.</p>"
      }
    }
  },
  "traits": {
    "smithy.api#documentation": "<p>Describes an EC2 instance providing user-based subscriptions.</p>"
  }
}

```



```

    }
  },
  "StatusMessage": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The status message for users of an EC2 instance.</p>"
    }
  },
  "Domain": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The domain name of the Active Directory that contains the user
information for the product subscription.</p>"
    }
  },
  "AssociationDate": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The date a user was associated with an EC2 instance.</p>"
    }
  },
  "DisassociationDate": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The date a user was disassociated from an EC2 instance.</p>"
    }
  },
  "traits": {
    "smithy.api#documentation": "<p>Describes users of an EC2 instance providing user-based
subscriptions.</p>"
  },
  "com.amazonaws.licenseanagerusersubscriptions#InstanceUserSummaryList": {
    "type": "list",
    "member": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#InstanceUserSummary"
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#InternalServerError": {
    "type": "structure",
    "members": {
      "message": {
        "target": "smithy.api#String"
      }
    }
  },
  "traits": {
    "smithy.api#documentation": "<p>An exception occurred with the service.</p>",

```

```

    "smithy.api#error": "server",
    "smithy.api#httpError": 500
  }
},
"com.amazonaws.licensemanagerusersubscriptions#IPv4": {
  "type": "string",
  "traits": {
    "smithy.api#pattern": "^(?:(25[0-5]|2[0-4][0-9]|1[0-9][0-9]|[1-9][0-9]|[0-9])(\\.(?!$)|$)){4}$"
  }
},
"com.amazonaws.licensemanagerusersubscriptions#IPv4List": {
  "type": "list",
  "member": {
    "target": "com.amazonaws.licensemanagerusersubscriptions#IPv4"
  }
},
"com.amazonaws.licensemanagerusersubscriptions#LicenseManagerUserSubscriptions": {
  "type": "service",
  "version": "2018-05-10",
  "operations": [
    {
      "target": "com.amazonaws.licensemanagerusersubscriptions#AssociateUser"
    },
    {
      "target": "com.amazonaws.licensemanagerusersubscriptions#CreateLicenseServerEndpoint"
    },
    {
      "target": "com.amazonaws.licensemanagerusersubscriptions#DeleteLicenseServerEndpoint"
    },
    {
      "target": "com.amazonaws.licensemanagerusersubscriptions#DeregisterIdentityProvider"
    },
    {
      "target": "com.amazonaws.licensemanagerusersubscriptions#DisassociateUser"
    },
    {
      "target": "com.amazonaws.licensemanagerusersubscriptions#ListIdentityProviders"
    },
    {
      "target": "com.amazonaws.licensemanagerusersubscriptions#ListInstances"
    },
    {
      "target": "com.amazonaws.licensemanagerusersubscriptions#ListLicenseServerEndpoints"
    },
    {
      "target": "com.amazonaws.licensemanagerusersubscriptions#ListProductSubscriptions"
    },
    {

```

```

        "target": "com.amazonaws.licensemanagerusersubscriptions#ListTagsForResource"
    },
    {
        "target": "com.amazonaws.licensemanagerusersubscriptions#ListUserAssociations"
    },
    {
        "target": "com.amazonaws.licensemanagerusersubscriptions#RegisterIdentityProvider"
    },
    {
        "target": "com.amazonaws.licensemanagerusersubscriptions#StartProductSubscription"
    },
    {
        "target": "com.amazonaws.licensemanagerusersubscriptions#StopProductSubscription"
    },
    {
        "target": "com.amazonaws.licensemanagerusersubscriptions#TagResource"
    },
    {
        "target": "com.amazonaws.licensemanagerusersubscriptions#UntagResource"
    },
    {
        "target": "com.amazonaws.licensemanagerusersubscriptions#UpdateIdentityProviderSettings"
    }
],
"traits": {
    "aws.api#service": {
        "sdkId": "License Manager User Subscriptions",
        "arnNamespace": "license-manager-user-subscriptions",
        "cloudTrailEventSource": "license-manager-user-subscriptions.amazonaws.com"
    },
    "aws.auth#sigv4": {
        "name": "license-manager-user-subscriptions"
    },
    "aws.protocols#restJson1": {},
    "smithy.api#cors": {
        "additionalAllowedHeaders": [
            "*",
            "content-type",
            "x-amz-content-sha256",
            "x-amz-user-agent",
            "x-amzn-platform-id",
            "x-amzn-trace-id",
            "content-length",

            "x-api-key",
            "authorization",
            "x-amz-date",

```



```

"rules": [
  {
    "conditions": [
      {
        "fn": "isSet",
        "argv": [
          {
            "ref": "Endpoint"
          }
        ]
      }
    ]
  },
  {
    "rules": [
      {
        "conditions": [
          {
            "fn": "booleanEquals",
            "argv": [
              {
                "ref": "UseFIPS"
              },
              true
            ]
          }
        ]
      },
      {
        "error": "Invalid Configuration: FIPS and custom endpoint are not supported",
        "type": "error"
      }
    ],
    {
      "conditions": [
        {
          "fn": "booleanEquals",
          "argv": [
            {
              "ref": "UseDualStack"
            },
            true
          ]
        }
      ],
      {
        "error": "Invalid Configuration: Dualstack and custom endpoint are not supported",
        "type": "error"
      }
    ],
    {
      "conditions": [],
      "endpoint": {
        "url": {

```

```

        "ref": "Endpoint"
      },
    "properties": {},
    "headers": {}
  },
  "type": "endpoint"
}
],
"type": "tree"
},
{
  "conditions": [
    {
      "fn": "isSet",
      "argv": [
        {
          "ref": "Region"
        }
      ]
    }
  ]
},
"rules": [
  {
    "conditions": [
      {
        "fn": "aws.partition",

        "argv": [
          {
            "ref": "Region"
          }
        ],
        "assign": "PartitionResult"
      }
    ],
    "rules": [
      {
        "conditions": [
          {
            "fn": "booleanEquals",
            "argv": [
              {
                "ref": "UseFIPS"
              },
            ],

```

true

]

```

    },
    {
      "fn": "booleanEquals",
      "argv": [
        {
          "ref": "UseDualStack"
        },
        true
      ]
    }
  ],
  "rules": [
    {
      "conditions": [
        {
          "fn": "booleanEquals",
          "argv": [
            true,
            {
              "fn": "getAttr",
              "argv": [
                {
                  "ref": "PartitionResult"
                },
                "supportsFIPS"
              ]
            }
          ]
        }
      ]
    },
    {
      "fn": "booleanEquals",
      "argv": [
        true,
        {
          "fn": "getAttr",
          "argv": [
            {
              "ref": "PartitionResult"
            },
            "supportsDualStack"
          ]
        }
      ]
    }
  ],

```

```

        "rules": [
            {
                "conditions": [],
                "endpoint": {
                    "url": "https://license-manager-user-subscriptions-
fips.{Region}.{PartitionResult#dualStackDnsSuffix}",
                    "properties": {},
                    "headers": {}
                },
                "type": "endpoint"
            }
        ],

        "type": "tree"
    },
    {
        "conditions": [],
        "error": "FIPS and DualStack are enabled, but this partition does not support one or
both",
        "type": "error"
    }
],
"type": "tree"
},
{
    "conditions": [
        {
            "fn": "booleanEquals",
            "argv": [
                {
                    "ref": "UseFIPS"
                },
                true
            ]
        }
    ],
    "rules": [
        {
            "conditions": [
                {
                    "fn": "booleanEquals",
                    "argv": [
                        {
                            "fn": "getAttr",
                            "argv": [

```

```

{
    "ref": "PartitionResult"
    },
    "supportsFIPS"
    ]
    },
    true
    ]
    }
    ],
    "rules": [
        {
            "conditions": [],
            "endpoint": {

"url": "https://license-manager-user-subscriptions-fips.{Region}.{PartitionResult#dnsSuffix}",
            "properties": {},
            "headers": {}
            },
            "type": "endpoint"
            }
        ],
        "type": "tree"
    },
    {
        "conditions": [],
        "error": "FIPS is enabled but this partition does not support FIPS",
        "type": "error"
    }
}

],
"type": "tree"
},
{
    "conditions": [
        {
            "fn": "booleanEquals",
            "argv": [
                {
                    "ref": "UseDualStack"
                },
                true
            ]
        }
    ]
    },
    ],
    "rules": [
        {

```

```

"conditions": [
    {
        "fn": "booleanEquals",
        "argv": [
            true,
            {
                "fn": "getAttr",
                "argv": [
                    {
                        "ref": "PartitionResult"
                    },
                    "supportsDualStack"
                ]
            }
        ]
    }
],
"rules": [
    {
        "conditions": [],
        "endpoint": {
            "url": "https://license-manager-user-
subscriptions.{Region}.{PartitionResult#dualStackDnsSuffix}",
            "properties": {},
            "headers": {}
        },
        "type": "endpoint"
    }
],
    "type": "tree"
},
{
    "conditions": [],
    "error": "DualStack is enabled but this partition does not support DualStack",
    "type": "error"
}
],
    "type": "tree"
},
{
    "conditions": [],
    "endpoint": {
        "url": "https://license-manager-user-
subscriptions.{Region}.{PartitionResult#dnsSuffix}",

```

```

        "properties": {},
        "headers": {}
    },
    "type": "endpoint"
}
],
"type": "tree"
}
],
"type": "tree"
},
{
    "conditions": [],
    "error": "Invalid Configuration: Missing Region",
    "type": "error"
}
]
},
"smithy.rules#endpointTests": {
    "testCases": [
        {
            "documentation": "For region us-east-1 with FIPS enabled and DualStack enabled",
            "expect":
{
                "endpoint": {
                    "url": "https://license-manager-user-subscriptions-fips.us-east-1.api.aws"
                }
            },
            "params": {
                "Region": "us-east-1",
                "UseFIPS": true,
                "UseDualStack": true
            }
        },
        {
            "documentation": "For region us-east-1 with FIPS enabled and DualStack disabled",
            "expect": {
                "endpoint": {
                    "url": "https://license-manager-user-subscriptions-fips.us-east-1.amazonaws.com"
                }
            },
            "params": {
                "Region": "us-east-1",

"UseFIPS": true,
                "UseDualStack": false
            }
        },
    ]
}

```



```

{
  "documentation": "For region us-east-1 with FIPS disabled and DualStack enabled",
  "expect": {
    "endpoint": {
      "url": "https://license-manager-user-subscriptions.us-east-1.api.aws"
    }
  },
  "params": {
    "Region": "us-east-1",
    "UseFIPS": false,
    "UseDualStack": true
  }
},
{
  "documentation": "For region us-east-1 with FIPS disabled and DualStack disabled",
  "expect": {
    "endpoint":
{
      "url": "https://license-manager-user-subscriptions.us-east-1.amazonaws.com"
    }
  },
  "params": {
    "Region": "us-east-1",
    "UseFIPS": false,
    "UseDualStack": false
  }
},
{
  "documentation": "For region cn-north-1 with FIPS enabled and DualStack enabled",
  "expect": {
    "endpoint": {
      "url": "https://license-manager-user-subscriptions-fips.cn-north-
1.api.amazonaws.com.cn"
    }
  },
  "params": {
    "Region": "cn-north-1",
    "UseFIPS":
true,
    "UseDualStack": true
  }
},
{
  "documentation": "For region cn-north-1 with FIPS enabled and DualStack disabled",
  "expect": {
    "endpoint": {
      "url": "https://license-manager-user-subscriptions-fips.cn-north-1.amazonaws.com.cn"
    }
  }
}

```

```

    },
    "params": {
      "Region": "cn-north-1",
      "UseFIPS": true,
      "UseDualStack": false
    }
  },
  {
    "documentation": "For region cn-north-1 with FIPS disabled and DualStack enabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-user-subscriptions.cn-north-1.api.amazonwebservices.com.cn"
      }
    },
    "params": {
      "Region": "cn-north-1",
      "UseFIPS": false,
      "UseDualStack": true
    }
  },
  {
    "documentation": "For region cn-north-1 with FIPS disabled and DualStack disabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-user-subscriptions.cn-north-1.amazonaws.com.cn"
      }
    },
    "params": {
      "Region": "cn-north-1",
      "UseFIPS": false,
      "UseDualStack": false
    }
  },
  {
    "documentation": "For region us-gov-east-1 with FIPS enabled and DualStack enabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-user-subscriptions-fips.us-gov-east-1.api.aws"
      }
    },
    "params": {
      "Region": "us-gov-east-1",
      "UseFIPS": true,
      "UseDualStack": true
    }
  },
  {

```

```

    "documentation": "For region us-gov-east-1 with FIPS enabled and DualStack disabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-user-subscriptions-fips.us-gov-east-1.amazonaws.com"
      }
    },
    "params": {
      "Region": "us-gov-east-1",
      "UseFIPS": true,
      "UseDualStack": false
    }
  },
  {
    "documentation": "For region us-gov-east-1 with FIPS disabled and DualStack enabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-user-subscriptions.us-gov-east-1.api.aws"
      }
    },
    "params": {
      "Region": "us-gov-east-1",
      "UseFIPS": false,
      "UseDualStack": true
    }
  },
  {
    "documentation": "For region us-gov-east-1 with FIPS disabled and DualStack disabled",
    "expect": {
      "endpoint": {
        "url": "https://license-manager-user-subscriptions.us-gov-east-1.amazonaws.com"
      }
    },
    "params": {
      "Region": "us-gov-east-1",
      "UseFIPS": false,
      "UseDualStack": false
    }
  },
  {
    "documentation": "For region us-iso-east-1 with FIPS enabled and DualStack enabled",
    "expect": {
      "error": "FIPS
and DualStack are enabled, but this partition does not support one or both"
    },
    "params": {
      "Region": "us-iso-east-1",
      "UseFIPS": true,

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        "UseDualStack": true
    }
},
{
    "documentation": "For region us-iso-east-1 with FIPS enabled and DualStack disabled",
    "expect": {
        "endpoint": {
            "url": "https://license-manager-user-subscriptions-fips.us-iso-east-1.c2s.ic.gov"
        }
    },
    "params": {
        "Region": "us-iso-east-1",
        "UseFIPS": true,
        "UseDualStack": false
    }
}

},
{
    "documentation": "For region us-iso-east-1 with FIPS disabled and DualStack enabled",
    "expect": {
        "error": "DualStack is enabled but this partition does not support DualStack"
    },
    "params": {
        "Region": "us-iso-east-1",
        "UseFIPS": false,
        "UseDualStack": true
    }
},
{
    "documentation": "For region us-iso-east-1 with FIPS disabled and DualStack disabled",
    "expect": {
        "endpoint": {
            "url": "https://license-manager-user-subscriptions.us-iso-east-1.c2s.ic.gov"
        }
    },
    "params": {
        "Region": "us-iso-east-1",
        "UseFIPS": false,
        "UseDualStack": false
    }
},
{
    "documentation": "For region us-isob-east-1 with FIPS enabled and DualStack enabled",
    "expect": {
        "error": "FIPS and DualStack are enabled, but this partition does not support one or both"
    },
    "params": {

```

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        "Region": "us-isob-east-1",
        "UseFIPS": true,
        "UseDualStack": true
    }
},
{
    "documentation": "For region us-isob-east-1 with FIPS enabled and DualStack
disabled",
    "expect": {
        "endpoint": {
            "url": "https://license-manager-user-subscriptions-fips.us-isob-east-1.sc2s.sgov.gov"
        }
    },
    "params": {
        "Region": "us-isob-east-1",
        "UseFIPS": true,
        "UseDualStack": false
    }
},
{
    "documentation": "For region us-isob-east-1 with FIPS disabled and DualStack enabled",
    "expect": {
        "error": "DualStack is enabled but this partition does not support DualStack"
    },
    "params": {
        "Region": "us-isob-east-1",
        "UseFIPS": false,
        "UseDualStack": true
    }
},
{
    "documentation": "For region us-isob-east-1 with FIPS disabled and DualStack disabled",
    "expect": {
        "endpoint": {
            "url": "https://license-manager-user-subscriptions.us-isob-east-1.sc2s.sgov.gov"
        }
    },
    "params": {
        "Region": "us-isob-east-1",
        "UseFIPS": false,
        "UseDualStack": false
    }
},
{
    "documentation": "For custom endpoint with region set and fips disabled and dualstack disabled",
    "expect": {

```

```

        "endpoint": {
            "url": "https://example.com"
        }
    },
    "params": {
        "Region": "us-east-1",
        "UseFIPS": false,
        "UseDualStack": false,
        "Endpoint": "https://example.com"
    }
},
{
    "documentation": "For custom endpoint with region not set and fips disabled and dualstack
disabled",
    "expect": {
        "endpoint": {
            "url": "https://example.com"
        }
    },
    "params": {
        "UseFIPS": false,
        "UseDualStack":
false,
        "Endpoint": "https://example.com"
    }
},
{
    "documentation": "For custom endpoint with fips enabled and dualstack disabled",
    "expect": {
        "error": "Invalid Configuration: FIPS and custom endpoint are not supported"
    },
    "params": {
        "Region": "us-east-1",
        "UseFIPS": true,
        "UseDualStack": false,
        "Endpoint": "https://example.com"
    }
},
{
    "documentation": "For custom endpoint with fips disabled and dualstack enabled",
    "expect": {
        "error": "Invalid Configuration:
Dualstack and custom endpoint are not supported"
    },
    "params": {
        "Region": "us-east-1",
        "UseFIPS": false,
        "UseDualStack": true,

```



```

        "target": "smithy.api#String",
        "traits": {
            "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the identity provider that's
associated with \n\t\t\tthe RDS license server endpoint.</p>"
        }
    },
    "ServerType": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ServerType",
        "traits": {
            "smithy.api#documentation": "<p>The type of license server.</p>"
        }
    },
    "ServerEndpoint": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ServerEndpoint",

        "traits": {
            "smithy.api#documentation": "<p>The <code>ServerEndpoint</code> resource contains the network
\n\t\t\taddress of the RDS license server endpoint.</p>"
        }
    },
    "StatusMessage": {
        "target": "smithy.api#String",
        "traits": {
            "smithy.api#documentation": "<p>The message associated with the provisioning status, if there is
one.</p>"
        }
    },
    "LicenseServerEndpointId": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#LicenseServerEndpointId",
        "traits": {
            "smithy.api#documentation": "<p>The ID of the license server endpoint.</p>"
        }
    },
    "LicenseServerEndpointArn": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#Arn",
        "traits": {
            "smithy.api#documentation": "<p>The ARN of the <code>ServerEndpoint</code> resource for the
RDS \n\t\t\tlicense server.</p>"
        }
    },
    "LicenseServerEndpointProvisioningStatus": {
        "target":
"com.amazonaws.licenseanagerusersubscriptions#LicenseServerEndpointProvisioningStatus",
        "traits": {
            "smithy.api#documentation": "<p>The current state of the provisioning process for the RDS license
\n\t\t\tserver endpoint</p>"
        }
    }
}

```



```

    },
    "LicenseServers": {
      "target": "com.amazonaws.licensemanagerusersubscriptions#LicenseServerList",
      "traits": {
        "smithy.api#documentation": "<p>An array of <code>LicenseServer</code> resources that represent
the \n\t\t\tlicense servers that are accessed through this endpoint.</p>"
      }
    },
    "CreationTime": {
      "target": "smithy.api#Timestamp",
      "traits": {
        "smithy.api#documentation": "<p>The timestamp when License Manager created the license server
endpoint.</p>"
      }
    },
    "traits": {
      "smithy.api#documentation": "<p>Contains details about a network endpoint for a Remote Desktop
Services (RDS) \n\t\t\tlicense server.</p>"
    }
  },
  "com.amazonaws.licensemanagerusersubscriptions#LicenseServerEndpointId": {
    "type": "string"
  },
  "com.amazonaws.licensemanagerusersubscriptions#LicenseServerEndpointList": {
    "type": "list",
    "member": {
      "target": "com.amazonaws.licensemanagerusersubscriptions#LicenseServerEndpoint"
    }
  },
  "com.amazonaws.licensemanagerusersubscriptions#LicenseServerEndpointProvisioningStatus": {
    "type": "string",
    "traits": {
      "smithy.api#enum": [
        {
          "name": "PROVISIONING",
          "value": "PROVISIONING",
          "documentation": ""
        },
        {
          "name": "PROVISIONING_FAILED",
          "value": "PROVISIONING_FAILED",
          "documentation": ""
        },
        {
          "name": "PROVISIONED",

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        "value": "PROVISIONED",
        "documentation": ""
    },
    {
        "name": "DELETING",
        "value": "DELETING",
        "documentation": ""
    },
    {
        "name": "DELETION_FAILED",
        "value": "DELETION_FAILED",
        "documentation": ""
    }
},
{
    "name": "DELETED",
    "value": "DELETED",
    "documentation": ""
}
]
}
},
"com.amazonaws.licensemanagerusersubscriptions#LicenseServerHealthStatus": {
    "type": "string",
    "traits": {
        "smithy.api#enum": [
            {
                "name": "HEALTHY",
                "value": "HEALTHY",
                "documentation": ""
            },
            {
                "name": "UNHEALTHY",
                "value": "UNHEALTHY",
                "documentation": ""
            },
            {
                "name": "NOT_APPLICABLE",
                "value": "NOT_APPLICABLE",
                "documentation": ""
            }
        ]
    }
},
"com.amazonaws.licensemanagerusersubscriptions#LicenseServerList": {
    "type": "list",
    "member": {
        "target": "com.amazonaws.licensemanagerusersubscriptions#LicenseServer"
    }
}

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    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#LicenseServerSettings": {
    "type": "structure",
    "members": {
      "ServerType": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ServerType",
        "traits": {
          "smithy.api#documentation": "<p>The type of license server.</p>",
          "smithy.api#required": {}
        }
      },
      "ServerSettings": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ServerSettings",
        "traits": {
          "smithy.api#documentation": "<p>The <code>ServerSettings</code> resource contains the settings
for
your \n\t\t\tserver.</p>",
          "smithy.api#required": {}
        }
      }
    },
    "traits": {
      "smithy.api#documentation": "<p>The settings to configure your license server.</p>"
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#ListIdentityProviders": {
    "type": "operation",
    "input": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ListIdentityProvidersRequest"
    },
    "output": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ListIdentityProvidersResponse"
    },
    "errors": [
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#AccessDeniedException"
      },
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ConflictException"
      },
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerException"
      },
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
      }
    ]
  }
}

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    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ThrottlingException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
    }
  ],
  "traits": {
    "smithy.api#documentation": "<p>Lists the Active Directory identity providers for user-based
subscriptions.</p>",
    "smithy.api#http": {
      "code": 200,
      "method": "POST",
      "uri": "/identity-provider/ListIdentityProviders"
    },
    "smithy.api#paginated": {
      "inputToken": "NextToken",
      "outputToken": "NextToken",
      "pageSize": "MaxResults",
      "items": "IdentityProviderSummaries"
    }
  }
},
"com.amazonaws.licenseanagerusersubscriptions#ListIdentityProvidersRequest": {
  "type": "structure",
  "members": {
    "MaxResults": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#BoxInteger",
      "traits": {
        "smithy.api#documentation": "<p>The maximum number of results to return from a single
request.</p>"
      }
    },
    "Filters": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#FilterList",
      "traits": {
        "smithy.api#documentation": "<p>You can use
the following filters to streamline results:</p>\n      <ul>\n        <li>\n          <p>Product</p>\n        </li>\n        <li>\n          <p>DirectoryId</p>\n        </li>\n      </ul>"
      }
    },
    "NextToken": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>A token to specify where to start paginating. This is the nextToken

```



```

    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerError"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
    },
  ],
  "traits": {
    "smithy.api#documentation": "<p>Lists the EC2 instances providing user-based subscriptions.</p>",
    "smithy.api#http": {
      "code": 200,
      "method": "POST",
      "uri": "/instance/ListInstances"
    },
    "smithy.api#paginated": {
      "inputToken": "NextToken",
      "outputToken": "NextToken",
      "pageSize": "MaxResults",
      "items": "InstanceSummaries"
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#ListInstancesRequest": {
    "type": "structure",
    "members": {
      "MaxResults": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#BoxInteger",
        "traits": {
          "smithy.api#documentation": "<p>The maximum number of results to return from a single request.</p>"
        }
      },
      "NextToken": {
        "target": "smithy.api#String",
        "traits": {
          "smithy.api#documentation": "<p>A token to specify where to start paginating. This is the nextToken\n\tfrom a previously truncated response.</p>"
        }
      }
    }
  }
}

```

```

    }
  },
  "Filters": {
    "target": "com.amazonaws.licensemanagerusersubscriptions#FilterList",
    "traits": {
      "smithy.api#documentation": "<p>You can use the following filters to streamline results:</p>\n
<ul>\n
  <li>\n
    <p>Status</p>\n
  </li>\n
  <li>\n
    <p>InstanceId</p>\n
  </li>\n
</ul>"
    }
  },
  "traits": {
    "smithy.api#input": {}
  },
  "com.amazonaws.licensemanagerusersubscriptions#ListInstancesResponse": {
    "type": "structure",
    "members": {
      "InstanceSummaries": {
        "target": "com.amazonaws.licensemanagerusersubscriptions#InstanceSummaryList",
        "traits": {
          "smithy.api#documentation": "<p>An array of <code>InstanceSummary</code> resources that
contain details \n\t\t\tabout the instances that provide user-based subscriptions and also meet the \n\t\t\trequest
criteria.</p>"
        }
      },
      "NextToken": {
        "target": "smithy.api#String",
        "traits": {
          "smithy.api#documentation": "<p>The next
token used for paginated responses. When this field isn't empty, \n\t\tthere are additional elements that the service
hasn't included in this request. Use this token \n\t\t\twith the next request to retrieve additional objects.</p>"
        }
      }
    },
    "traits": {
      "smithy.api#output": {}
    }
  },
  "com.amazonaws.licensemanagerusersubscriptions#ListLicenseServerEndpoints": {
    "type": "operation",
    "input": {
      "target": "com.amazonaws.licensemanagerusersubscriptions#ListLicenseServerEndpointsRequest"
    },
    "output": {
      "target": "com.amazonaws.licensemanagerusersubscriptions#ListLicenseServerEndpointsResponse"
    },
    "errors": [

```

```

    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#AccessDeniedException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ConflictException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ThrottlingException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
    }
  ],
  "traits": {
    "smithy.api#documentation": "<p>List the Remote Desktop Services (RDS) License Server endpoints
</p>",
    "smithy.api#http": {
      "code": 200,
      "method": "POST",
      "uri": "/license-server/ListLicenseServerEndpoints"
    },

    "smithy.api#paginated": {
      "inputToken": "NextToken",
      "outputToken": "NextToken",
      "pageSize": "MaxResults",
      "items": "LicenseServerEndpoints"
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#ListLicenseServerEndpointsRequest": {
    "type": "structure",
    "members": {
      "MaxResults": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#BoxInteger",
        "traits": {
          "smithy.api#documentation": "<p>The maximum number of results to return from a single
request.</p>",
          "smithy.api#range": {
            "min": 1,
            "max": 100
          }
        }
      }
    }
  }
}

```



```

    "target": "com.amazonaws.licenseanagerusersubscriptions#ListProductSubscriptionsRequest"
  },
  "output": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#ListProductSubscriptionsResponse"
  },
  "errors": [
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#AccessDeniedException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ConflictException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerErrorException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ThrottlingException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
    }
  ],
  "traits": {
    "smithy.api#documentation": "<p>Lists the user-based subscription products available from an identity provider.</p>",
    "smithy.api#http": {
      "code": 200,
      "method": "POST",
      "uri": "/user/ListProductSubscriptions"
    },
    "smithy.api#paginated": {
      "inputToken": "NextToken",
      "outputToken": "NextToken",
      "pageSize": "MaxResults",
      "items": "ProductUserSummaries"
    }
  }
},
"com.amazonaws.licenseanagerusersubscriptions#ListProductSubscriptionsRequest":
{
  "type": "structure",
  "members": {

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```

    "Product": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The name of the user-based subscription product.</p>\n
        <p>Valid values: <code>VISUAL_STUDIO_ENTERPRISE</code> |
        <code>VISUAL_STUDIO_PROFESSIONAL</code> | <code>OFFICE_PROFESSIONAL_PLUS</code> |
        \n<code>REMOTE_DESKTOP_SERVICES</code>\n      </p>"
      }
    },
    "IdentityProvider": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProvider",
      "traits": {
        "smithy.api#documentation": "<p>An object that specifies details for the identity provider.</p>",
        "smithy.api#required": {}
      }
    },
    "MaxResults": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#BoxInteger",
      "traits": {
        "smithy.api#documentation": "<p>The maximum number of results to return from a single
request.</p>"
      }
    },
    "Filters": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#FilterList",
      "traits": {
        "smithy.api#documentation": "<p>You can use the following filters to streamline results:</p>\n
        <ul>\n          <li>\n            <p>Status</p>\n          </li>\n          <li>\n            <p>Username</p>\n          </li>\n          <li>\n            <p>Domain</p>\n          </li>\n        </ul>"
      }
    },
    "NextToken": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>A token to specify where to start paginating.
This is the nextToken \n\tfrom a previously truncated response.</p>"
      }
    },
    "traits": {
      "smithy.api#input": {}
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#ListProductSubscriptionsResponse": {
    "type": "structure",
    "members": {
      "ProductUserSummaries": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ProductUserSummaryList",

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```

    "traits": {
      "smithy.api#documentation": "<p>Metadata that describes the list product subscriptions
operation.</p>"
    },
    "NextToken": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The next token used for paginated responses. When this field isn't
empty, \n\tthere are additional elements that the service
hasn't included in this request. Use this token \n\t\twith the next request to retrieve additional objects.</p>"
      }
    },
    "traits": {
      "smithy.api#output": {}
    },
    "com.amazonaws.licensemanagerusersubscriptions#ListTagsForResource": {
      "type": "operation",
      "input": {
        "target": "com.amazonaws.licensemanagerusersubscriptions#ListTagsForResourceRequest"
      },
      "output": {
        "target": "com.amazonaws.licensemanagerusersubscriptions#ListTagsForResourceResponse"
      },
      "errors": [
        {
          "target": "com.amazonaws.licensemanagerusersubscriptions#InternalServerErrorException"
        },
        {
          "target": "com.amazonaws.licensemanagerusersubscriptions#ResourceNotFoundException"
        },
        {
          "target":
"com.amazonaws.licensemanagerusersubscriptions#ValidationException"
        }
      ],
      "traits": {
        "smithy.api#documentation": "<p>Returns the list of tags for the specified resource.</p>",
        "smithy.api#http": {
          "method": "GET",
          "uri": "/tags/{ResourceArn}"
        },
        "smithy.api#readonly": {}
      }
    },
    "com.amazonaws.licensemanagerusersubscriptions#ListTagsForResourceRequest": {

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```

    "type": "structure",
    "members": {
      "ResourceArn": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceArn",
        "traits": {
          "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the resource whose tags
you want to retrieve.</p>",
          "smithy.api#httpLabel": {},
          "smithy.api#required": {}
        }
      }
    },
    "traits": {
      "smithy.api#input": {}
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#ListTagsForResourceResponse": {
    "type": "structure",
    "members": {
      "Tags": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#Tags",
        "traits": {
          "smithy.api#documentation": "<p>The tags for the specified resource.</p>"
        }
      }
    },
    "traits": {
      "smithy.api#output": {}
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#ListUserAssociations": {
    "type": "operation",
    "input": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ListUserAssociationsRequest"
    },
    "output": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ListUserAssociationsResponse"
    },
    "errors": [
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#AccessDeniedException"
      },
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ConflictException"
      },
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerError"
      }
    ]
  }
}

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```

    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ThrottlingException"
    },
    {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
    }
  ],
  "traits": {
    "smithy.api#documentation": "<p>Lists user associations for an identity provider.</p>",
    "smithy.api#http": {
      "code": 200,
      "method": "POST",
      "uri": "/user/ListUserAssociations"
    },
    "smithy.api#paginated": {
      "inputToken": "NextToken",
      "outputToken": "NextToken",
      "pageSize": "MaxResults",
      "items": "InstanceUserSummaries"
    }
  }
},
"com.amazonaws.licenseanagerusersubscriptions#ListUserAssociationsRequest": {
  "type": "structure",
  "members": {
    "InstanceId": {
      "target": "smithy.api#String",
      "traits": {
        "smithy.api#documentation": "<p>The ID of the EC2 instance, which  
provides user-based subscriptions.</p>",
        "smithy.api#required": {}
      }
    },
    "IdentityProvider": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProvider",
      "traits": {
        "smithy.api#documentation": "<p>An object that specifies details for the identity provider.</p>",
        "smithy.api#required": {}
      }
    }
  },
  "MaxResults": {

```

```

        "target": "com.amazonaws.licenseanagerusersubscriptions#BoxInteger",
        "traits": {
            "smithy.api#documentation": "<p>The maximum number of results to return from a single
request.</p>"
        }
    },
    "Filters": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#FilterList",
        "traits": {
            "smithy.api#documentation": "<p>You can use the following filters to streamline results:</p>\n    <ul>\n
<li>\n        <p>Status</p>\n    </li>\n    <li>\n        <p>Username</p>\n    </li>\n
<li>\n        <p>Domain</p>\n    </li>\n    </ul>"
        }
    },
    "NextToken": {
        "target": "smithy.api#String",
        "traits": {
            "smithy.api#documentation": "<p>A token to specify where to start paginating. This is the nextToken
\n\tfrom a previously truncated response.</p>"
        }
    },
    "traits": {
        "smithy.api#input": {}
    }
},
"com.amazonaws.licenseanagerusersubscriptions#ListUserAssociationsResponse": {
    "type": "structure",
    "members": {
        "InstanceUserSummaries": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#InstanceUserSummaryList",
            "traits": {
                "smithy.api#documentation": "<p>Metadata that describes the list user association operation.</p>"
            }
        },
        "NextToken": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>The next token used for paginated responses. When this field isn't
empty, \n\tthere are additional elements that the service hasn't included in this request. Use this token \n\t\twith the
next request to retrieve additional objects.</p>"
            }
        }
    },
    "traits": {
        "smithy.api#output": {}
    }
}

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    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#ProductUserSummary": {
    "type": "structure",
    "members": {
      "Username": {
        "target": "smithy.api#String",
        "traits": {
          "smithy.api#documentation": "<p>The user name from the identity provider for this product
user.</p>",
          "smithy.api#required": {}
        }
      },
      "Product": {
        "target": "smithy.api#String",
        "traits": {
          "smithy.api#documentation": "<p>The name of the user-based subscription product.</p>",
          "smithy.api#required": {}
        }
      },
      "IdentityProvider": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProvider",
        "traits": {
          "smithy.api#documentation": "<p>An object that specifies details for the identity provider.</p>",
          "smithy.api#required": {}
        }
      },
      "Status": {
        "target": "smithy.api#String",
        "traits": {
          "smithy.api#documentation": "<p>The status of a product for this user.</p>",
          "smithy.api#required": {}
        }
      },
      "ProductUserArn": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#Arn",
        "traits": {
          "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) for this product user.</p>"
        }
      },
      "StatusMessage": {
        "target": "smithy.api#String",
        "traits": {
          "smithy.api#documentation": "<p>The status message for a product for this user.</p>"
        }
      },
      "Domain": {

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        "target": "smithy.api#String",
        "traits": {

            "smithy.api#documentation": "<p>The domain name of the Active Directory that contains the user
information for the product subscription.</p>"
        }
    },
    "SubscriptionStartDate": {
        "target": "smithy.api#String",
        "traits": {
            "smithy.api#documentation": "<p>The start date of a subscription.</p>"
        }
    },
    "SubscriptionEndDate": {
        "target": "smithy.api#String",
        "traits": {
            "smithy.api#documentation": "<p>The end date of a subscription.</p>"
        }
    },
    "traits": {
        "smithy.api#documentation": "<p>A summary of the user-based subscription products for a specific
user.</p>"
    },
    "com.amazonaws.licenseanagerusersubscriptions#ProductUserSummaryList": {
        "type":
"list",
        "member": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#ProductUserSummary"
        }
    },
    "com.amazonaws.licenseanagerusersubscriptions#RdsSalSettings": {
        "type": "structure",
        "members": {
            "RdsSalCredentialsProvider": {
                "target": "com.amazonaws.licenseanagerusersubscriptions#CredentialsProvider",
                "traits": {
                    "smithy.api#documentation": "<p>The <code>CredentialsProvider</code> resource contains a
reference to \n\t\t\tthe credentials provider that's used for RDS license server user administration.</p>",
                    "smithy.api#required": {}
                }
            }
        },
        "traits": {
            "smithy.api#documentation": "<p>Server settings that are specific to a Remote Desktop Services (RDS)
license server.</p>"
        }
    }

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    },
    "com.amazonaws.licenseanagerusersubscriptions#RegisterIdentityProvider":
    {
        "type": "operation",
        "input": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#RegisterIdentityProviderRequest"
        },
        "output": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#RegisterIdentityProviderResponse"
        },
        "errors": [
            {
                "target": "com.amazonaws.licenseanagerusersubscriptions#AccessDeniedException"
            },
            {
                "target": "com.amazonaws.licenseanagerusersubscriptions#ConflictException"
            },
            {
                "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerErrorException"
            },
            {
                "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
            },
            {
                "target":
"com.amazonaws.licenseanagerusersubscriptions#ServiceQuotaExceededException"
            },
            {
                "target": "com.amazonaws.licenseanagerusersubscriptions#ThrottlingException"
            },
            {
                "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
            }
        ],
        "traits": {
            "smithy.api#documentation": "<p>Registers an identity provider for user-based subscriptions.</p>",
            "smithy.api#http": {
                "code": 200,
                "method": "POST",
                "uri": "/identity-provider/RegisterIdentityProvider"
            },
            "smithy.api#idempotent": {}
        }
    },
    "com.amazonaws.licenseanagerusersubscriptions#RegisterIdentityProviderRequest": {
        "type": "structure",
        "members": {
            "IdentityProvider": {

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    "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProvider",
    "traits": {
      "smithy.api#documentation": "<p>An object that specifies details for the identity provider to
register.</p>",
      "smithy.api#required": {}
    }
  },
  "Product": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The name of the user-based subscription product.</p>\n
<p>Valid values: <code>VISUAL_STUDIO_ENTERPRISE</code> |
<code>VISUAL_STUDIO_PROFESSIONAL</code> | <code>OFFICE_PROFESSIONAL_PLUS</code> |
\n<code>REMOTE_DESKTOP_SERVICES</code>\n      </p>",
      "smithy.api#required": {}
    }
  },
  "Settings": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#Settings",
    "traits": {
      {
        "smithy.api#documentation": "<p>The registered identity providers product related configuration
\n\t\t\tsettings such as the subnets to provision VPC endpoints.</p>"
      }
    },
    "Tags": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#Tags",
      "traits": {
        "smithy.api#documentation": "<p>The tags that apply to the identity provider's registration.</p>"
      }
    },
    "traits": {
      "smithy.api#input": {}
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#RegisterIdentityProviderResponse": {
    "type": "structure",
    "members": {
      "IdentityProviderSummary": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProviderSummary",
        "traits": {
          "smithy.api#documentation":
            "<p>Metadata that describes the results of an identity provider operation.</p>",
          "smithy.api#required": {}
        }
      }
    }
  }
}

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    },
    "traits": {
      "smithy.api#output": {}
    }
  },
  "com.amazonaws.licensemanagerusersubscriptions#ResourceArn": {
    "type": "string",
    "traits": {
      "smithy.api#pattern": "^arn:([a-z0-9-\\.]{1,63}):([a-z0-9-\\.]{1,63}):([a-z0-9-\\.]{1,63}):([a-z0-9-\\.]{1,63}):([a-z0-9-\\.]{1,510})/([a-z0-9-\\.]{1,510})$"
    }
  },
  "com.amazonaws.licensemanagerusersubscriptions#ResourceNotFoundException": {
    "type": "structure",
    "members": {
      "message": {
        "target": "smithy.api#String"
      }
    },
    "traits": {
      "smithy.api#documentation": "<p>The resource couldn't be found.</p>",

"smithy.api#error": "client",
      "smithy.api#httpError": 404
    }
  },
  "com.amazonaws.licensemanagerusersubscriptions#SecretsManagerCredentialsProvider": {
    "type": "structure",
    "members": {
      "SecretId": {
        "target": "smithy.api#String",
        "traits": {
          "smithy.api#documentation": "<p>The ID of the Secrets Manager secret that contains credentials.</p>",
          "smithy.api#length": {
            "min": 1
          }
        }
      }
    },
    "traits": {
      "smithy.api#documentation": "<p>Contains a credentials secret that's stored in Secrets Manager.</p>"
    }
  },
  "com.amazonaws.licensemanagerusersubscriptions#SecurityGroup": {
    "type": "string",
    "traits": {
      "smithy.api#length": {

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    "traits": {
      "smithy.api#documentation": "<p>The user name from the identity provider of the user.</p>",
      "smithy.api#required": {}
    }
  },
  "IdentityProvider": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#IdentityProvider",
    "traits": {
      "smithy.api#documentation": "<p>An object that specifies details for the identity provider.</p>",
      "smithy.api#required": {}
    }
  },
  "Product": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The name of the user-based subscription product.</p>\n      <p>Valid values:
<code>VISUAL_STUDIO_ENTERPRISE</code> | <code>VISUAL_STUDIO_PROFESSIONAL</code> |
<code>OFFICE_PROFESSIONAL_PLUS</code> | \n<code>REMOTE_DESKTOP_SERVICES</code>\n
</p>",
      "smithy.api#required": {}
    }
  },
  "Domain": {
    "target": "smithy.api#String",
    "traits": {
      "smithy.api#documentation": "<p>The domain name of the Active Directory that contains the user
for whom to start the product \n\t\t\t\t\tsubscription.</p>"
    }
  },
  "Tags": {
    "target": "com.amazonaws.licenseanagerusersubscriptions#Tags",
    "traits": {
      "smithy.api#documentation": "<p>The tags that apply to the product subscription.</p>"
    }
  }
},
"traits": {
  "smithy.api#input": {}
}
},
"com.amazonaws.licenseanagerusersubscriptions#StartProductSubscriptionResponse": {
  "type": "structure",
  "members": {
    "ProductUserSummary": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ProductUserSummary",
      "traits": {

```



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        "smithy.api#documentation": "<p>Metadata that describes the start product subscription
operation.</p>",
        "smithy.api#required": {}
    }
},
"traits": {
    "smithy.api#output": {}
}
},
"com.amazonaws.licensemanagerusersubscriptions#StopProductSubscription": {
    "type": "operation",
    "input": {
        "target": "com.amazonaws.licensemanagerusersubscriptions#StopProductSubscriptionRequest"
    },
    "output": {
        "target": "com.amazonaws.licensemanagerusersubscriptions#StopProductSubscriptionResponse"
    },
    "errors": [
        {
            "target": "com.amazonaws.licensemanagerusersubscriptions#AccessDeniedException"
        },
        {
            "target": "com.amazonaws.licensemanagerusersubscriptions#ConflictException"
        },
        {
            "target": "com.amazonaws.licensemanagerusersubscriptions#InternalServerError"
        },
        {
            "target": "com.amazonaws.licensemanagerusersubscriptions#ResourceNotFoundException"
        },
        {
            "target": "com.amazonaws.licensemanagerusersubscriptions#ServiceQuotaExceededException"
        },
        {
            "target": "com.amazonaws.licensemanagerusersubscriptions#ThrottlingException"
        }
    ],
    {
        "target": "com.amazonaws.licensemanagerusersubscriptions#ValidationException"
    }
},
"traits": {
    "smithy.api#documentation": "<p>Stops a product subscription for a user with the specified identity
provider.</p>",
    "smithy.api#http": {
        "code": 200,

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        "method": "POST",
        "uri": "/user/StopProductSubscription"
    }
},
"com.amazonaws.licenseanagerusersubscriptions#StopProductSubscriptionRequest": {
    "type": "structure",
    "members": {
        "Username": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>The user name from the identity provider for the user.</p>"
            }
        },
        "IdentityProvider": {
            "target":
"com.amazonaws.licenseanagerusersubscriptions#IdentityProvider",
            "traits": {
                "smithy.api#documentation": "<p>An object that specifies details for the identity provider.</p>"
            }
        },
        "Product": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>The name of the user-based subscription product.</p>\n
<p>Valid values: <code>VISUAL_STUDIO_ENTERPRISE</code> |
<code>VISUAL_STUDIO_PROFESSIONAL</code> | <code>OFFICE_PROFESSIONAL_PLUS</code> |
\n<code>REMOTE_DESKTOP_SERVICES</code>\n      </p>"
            }
        },
        "ProductUserArn": {
            "target": "com.amazonaws.licenseanagerusersubscriptions#Arn",
            "traits": {
                "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the product user.</p>"
            }
        },
        "Domain": {
            "target": "smithy.api#String",
            "traits": {
                "smithy.api#documentation": "<p>The domain name of the Active Directory that contains the user
for whom to stop the product \n\t\t\tsubscription.</p>"
            }
        }
    },
    "traits": {
        "smithy.api#input": {}
    }
}

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```

    },
    "com.amazonaws.licenseanagerusersubscriptions#StopProductSubscriptionResponse": {
      "type": "structure",
      "members": {
        "ProductUserSummary": {
          "target": "com.amazonaws.licenseanagerusersubscriptions#ProductUserSummary",
          "traits": {
            "smithy.api#documentation": "<p>Metadata that describes the start product subscription
operation.</p>",
            "smithy.api#required": {}
          }
        }
      }
    },
    "traits": {
      "smithy.api#output": {}
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#StringList": {
    "type": "list",
    "member": {
      "target": "smithy.api#String"
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#Subnet": {
    "type": "string",
    "traits": {
      "smithy.api#pattern": "^subnet-[a-z0-9]{8,17}"
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#Subnets": {
    "type": "list",
    "member": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#Subnet"
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#TagKeyList": {
    "type": "list",
    "member": {
      "target": "smithy.api#String"
    },
    "traits": {
      "smithy.api#length": {
        "min": 0,
        "max": 50
      }
    },
    "smithy.api#sensitive": {}
  }
}

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    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#TagResource": {
    "type": "operation",
    "input": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#TagResourceRequest"
    },
    "output": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#TagResourceResponse"
    },
    "errors": [
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerError"
      },
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
      },
      {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ValidationException"
      }
    ],
    "traits": {
      "smithy.api#documentation":
        "<p>Adds tags to a resource.</p>",
      "smithy.api#http": {
        "method": "PUT",
        "uri": "/tags/{ResourceArn}"
      },
      "smithy.api#idempotent": {}
    }
  },
  "com.amazonaws.licenseanagerusersubscriptions#TagResourceRequest": {
    "type": "structure",
    "members": {
      "ResourceArn": {
        "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceArn",
        "traits": {
          "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the resource that you want
to tag.</p>",
          "smithy.api#httpLabel": {},
          "smithy.api#required": {}
        }
      }
    },
    "Tags": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#Tags",
      "traits": {
        "smithy.api#documentation":

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"<p>The tags to apply to the specified resource.</p>",
    "smithy.api#required": {}
  }
},
"traits": {
  "smithy.api#input": {}
}
},
"com.amazonaws.licenseanagerusersubscriptions#TagResourceResponse": {
  "type": "structure",
  "members": {},
  "traits": {
    "smithy.api#output": {}
  }
},
"com.amazonaws.licenseanagerusersubscriptions#Tags": {
  "type": "map",
  "key": {
    "target": "smithy.api#String"
  },
  "value": {
    "target": "smithy.api#String"
  },
  "traits": {
    "smithy.api#length": {
      "min": 0,
      "max": 50
    },
    "smithy.api#sensitive": {}
  }
},
"com.amazonaws.licenseanagerusersubscriptions#ThrottlingException":
{
  "type": "structure",
  "members": {
    "message": {
      "target": "smithy.api#String"
    }
  },
  "traits": {
    "smithy.api#documentation": "<p>The request was denied because of request throttling. Retry the
request.</p>",
    "smithy.api#error": "client"
  }
},
"com.amazonaws.licenseanagerusersubscriptions#UntagResource": {
  "type": "operation",

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"input": {
  "target": "com.amazonaws.licenseanagerusersubscriptions#UntagResourceRequest"
},
"output": {
  "target": "com.amazonaws.licenseanagerusersubscriptions#UntagResourceResponse"
},
"errors": [
  {
    "target": "com.amazonaws.licenseanagerusersubscriptions#InternalServerErrorException"
  },
  {
    "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceNotFoundException"
  }
],
"traits": {
  "smithy.api#documentation": "<p>Removes tags from a resource.</p>",
  "smithy.api#http": {
    "method": "DELETE",
    "uri": "/tags/{ResourceArn}"
  },
  "smithy.api#idempotent": {}
},
"com.amazonaws.licenseanagerusersubscriptions#UntagResourceRequest": {
  "type": "structure",
  "members": {
    "ResourceArn": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#ResourceArn",
      "traits": {
        "smithy.api#documentation": "<p>The Amazon Resource Name (ARN) of the resource that you want to remove tags from.</p>",
        "smithy.api#httpLabel": {},
        "smithy.api#required": {}
      }
    },
    "TagKeys": {
      "target": "com.amazonaws.licenseanagerusersubscriptions#TagKeyList",
      "traits": {
        "smithy.api#documentation": "<p>The tag keys to remove from the resource.</p>",
        "smithy.api#httpQuery": "tagKeys",
        "smithy.api#required": {}
      }
    }
  },
  "traits": {
    "smithy.api#input": {}
  }
}

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    },
    "com.amazonaws.licenseanagerusersubscriptions#UpdateSettings": {
      "type": "structure",
      "members": {
        "AddSubnets": {

          "target": "com.amazonaws.licenseanagerusersubscriptions#Subnets",
          "traits": {
            "smithy.api#documentation": "<p>The ID of one or more subnets in which License Manager will
create a VPC endpoint for products that\n\t\t\trequire connectivity to activation servers.</p>",
            "smithy.api#required": {}
          }
        },
        "RemoveSubnets": {
          "target": "com.amazonaws.licenseanagerusersubscriptions#Subnets",
          "traits": {
            "smithy.api#documentation": "<p>The ID of one or more subnets to remove.</p>",
            "smithy.api#required": {}
          }
        },
        "SecurityGroupId": {
          "target": "com.amazonaws.licenseanagerusersubscriptions#SecurityGroup",
          "traits": {
            "smithy.api#documentation": "<p>A security group ID that
allows inbound TCP port 1688 communication between resources in\n\t\t\tyour VPC and the VPC endpoints for
activation servers.</p>"
          }
        },
        "traits": {
          "smithy.api#documentation": "<p>Updates the registered identity providers product related configuration
settings such as\n\t\t\tthe subnets to provision VPC endpoints.</p>"
        }
      },
    },
    "com.amazonaws.licenseanagerusersubscriptions#ValidationException": {
      "type": "structure",
      "members": {
        "message": {
          "target": "smithy.api#String"
        }
      },
      "traits": {
        "smithy.api#documentation": "<p>A parameter is not valid.</p>",
        "smithy.api#error": "client"
      }
    }
  }
}

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ListReceivedLicenses

Initialize stack step

spanInitializeStart

RegisterServiceMetadata

legacyEndpointContextSetter

SetLogger

spanInitializeEnd

Serialize stack step

spanBuildRequestStart

setOperationInput

ResolveEndpoint

OperationSerializer

Build stack step

ClientRequestID

ComputeContentLength

SetCredentialSourceMiddleware

UserAgent

AddTimeOffsetMiddleware

RecursionDetection

spanBuildRequestEnd

Finalize stack step

spanRetryLoop

Retry

RetryMetricsHeader

ResolveAuthScheme

GetIdentity

ResolveEndpointV2

disableHTTPS

ComputePayloadHash

setLegacyContextSigningOptions

```

Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody
CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming
RequestResponseLogger
// Code generated by smithy-go-codegen DO NOT EDIT.

package licensemanager

import (
    "context"
    "fmt"
    awsmiddleware "github.com/aws/aws-sdk-go-v2/aws/middleware"
    "github.com/aws/smithy-go/middleware"
    smithyhttp "github.com/aws/smithy-go/transport/http"
)

// Checks in the specified license. Check in a license when it is no longer in use.
func (c *Client) CheckInLicense(ctx context.Context, params *CheckInLicenseInput, optFns ...func(*Options))
(*CheckInLicenseOutput, error) {
    if params == nil {
        params = &CheckInLicenseInput{}
    }

    result, metadata, err := c.invokeOperation(ctx, "CheckInLicense", params, optFns,
c.addOperationCheckInLicenseMiddlewares)
    if err != nil {
        return nil, err
    }

    out := result.(*CheckInLicenseOutput)
    out.ResultMetadata = metadata
    return out, nil
}

type CheckInLicenseInput struct {

    // License consumption token.
    //
    // This member is required.
    LicenseConsumptionToken *string

```

```

// License beneficiary.
Beneficiary *string

noSmithyDocumentSerde
}

type
CheckInLicenseOutput struct {
// Metadata pertaining to the operation's result.
ResultMetadata middleware.Metadata

noSmithyDocumentSerde
}

func (c *Client) addOperationCheckInLicenseMiddlewares(stack *middleware.Stack, options Options) (err error) {
if err := stack.Serialize.Add(&setOperationInputMiddleware{}, middleware.After); err != nil {
return err
}
err = stack.Serialize.Add(&awsAwsjson11_serializeOpCheckInLicense{}, middleware.After)
if err != nil {
return err
}
err = stack.Deserialize.Add(&awsAwsjson11_deserializeOpCheckInLicense{}, middleware.After)
if err != nil {
return err
}
if err := addProtocolFinalizerMiddlewares(stack, options, "CheckInLicense"); err != nil {
return fmt.Errorf("add protocol finalizers: %v", err)
}

if err = addLegacyEndpointContextSetter(stack, options); err != nil {
return err
}
if err = addSetLoggerMiddleware(stack, options); err != nil {
return err
}
if err = addClientRequestID(stack); err != nil {
return err
}
if
err = addComputeContentLength(stack); err != nil {
return err
}
if err = addResolveEndpointMiddleware(stack, options); err != nil {
return err
}
if err = addComputePayloadSHA256(stack); err != nil {
return err
}

```



```

}
if err = addRetry(stack, options); err != nil {
    return err
}
if err = addRawResponseToMetadata(stack); err != nil {
    return err
}
if err = addRecordResponseTiming(stack); err != nil {
    return err
}
if err = addSpanRetryLoop(stack, options); err != nil {
    return err
}
if err = addClientUserAgent(stack, options); err != nil {
    return err
}
if err = smithyhttp.AddErrorCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = smithyhttp.AddCloseResponseBodyMiddleware(stack); err != nil {
    return err
}
if err = addSetLegacyContextSigningOptionsMiddleware(stack); err != nil {
    return err
}
if err = addTimeOffsetBuild(stack, c); err != nil {
    return err
}
if err = addUserAgentRetryMode(stack, options); err != nil {
    return err
}
if
err = addCredentialSource(stack, options); err != nil {
    return err
}
if err = addOpCheckInLicenseValidationMiddleware(stack); err != nil {
    return err
}
if err = stack.Initialize.Add(newServiceMetadataMiddleware_opCheckInLicense(options.Region),
middleware.Before); err != nil {
    return err
}
if err = addRecursionDetection(stack); err != nil {
    return err
}
if err = addRequestIDRetrieverMiddleware(stack); err != nil {
    return err
}
}

```

```

if err = addResponseErrorMiddleware(stack); err != nil {
    return err
}
if err = addRequestResponseLogging(stack, options); err != nil {
    return err
}
if err = addDisableHTTPSMiddleware(stack, options); err != nil {
    return err
}
if err = addSpanInitializeStart(stack); err != nil {
    return err
}
if err = addSpanInitializeEnd(stack); err != nil {
    return err
}
if err = addSpanBuildRequestStart(stack); err != nil {
    return err
}
if err = addSpanBuildRequestEnd(stack); err != nil {
    return err
}
return nil
}

```

```

func newServiceMetadataMiddleware_opCheckInLicense(region
string) *awsmiddleware.RegisterServiceMetadata {
return &awsmiddleware.RegisterServiceMetadata{
    Region:    region,
    ServiceID: ServiceID,
    OperationName: "CheckInLicense",
}
}

```

```

CheckoutLicense
Initialize stack step
spanInitializeStart
RegisterServiceMetadata
legacyEndpointContextSetter
SetLogger
OperationInputValidation
spanInitializeEnd
Serialize stack step
spanBuildRequestStart
setOperationInput
ResolveEndpoint
OperationSerializer
Build stack step
ClientRequestID
ComputeContentLength

```

SetCredentialSourceMiddleware
UserAgent
AddTimeOffsetMiddleware
RecursionDetection
spanBuildRequestEnd
Finalize stack step
spanRetryLoop
Retry
RetryMetricsHeader
ResolveAuthScheme
GetIdentity
ResolveEndpointV2
disableHTTPS
ComputePayloadHash
setLegacyContextSigningOptions
Signing
Deserialize stack step
AddRawResponseToMetadata
ErrorCloseResponseBody
CloseResponseBody
ResponseErrorWrapper
RequestIDRetriever
OperationDeserializer
AddTimeOffsetMiddleware
RecordResponseTiming
RequestResponseLogger

1.43 thrift 0.22.0

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  */
(By Douglas Crockford <douglas@crockford.com>)
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1.44 x-xerrors 0.0.0-20240903120638-7835f813f4da

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Original Author:

- [Dave Gamble](<https://github.com/DaveGamble>)

Current Maintainer:

- [Max Bruckner](<https://github.com/FSMaxB>)

- [Alan Wang](<https://github.com/Alanscut>)

Contributors:

- * [Ajay Bhargav](<https://github.com/ajaybhargav>)
- * [Alexander Vasiljev](<https://github.com/AlexanderVasiljev>)
- * [Alper Akcan](<https://github.com/alperakcan>)
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