

从崩溃信息文件中检索信息

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[规则](#)

[背景](#)

[崩溃信息文件的内容](#)

[从崩溃信息文件中检索信息](#)

[复制崩溃信息文件到 TFTP 服务器](#)

[崩溃信息文件示例](#)

[相关信息](#)

简介

本文档说明了什么是 Crashinfo 文件、Crashinfo 文件包含什么内容以及如何从 Crashinfo 文件中检索信息。

先决条件

要求

本文档没有任何特定的要求。

使用的组件

本文档中的信息基于以下软件和硬件版本：

- Cisco 1700、3600、7000、7200、7500 和 12000 系列路由器
- Cisco IOS® 软件版本 11.1 及更高版本

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

背景

Crashinfo 文件包含有关当前崩溃的许多有用信息，这些信息保存在 Bootflash 或闪存中。

因数据或堆栈损坏使路由器发生故障时，调试此类型故障与来自正常 **show stacks** 命令的输出相比，需要更多的重载信息。默认情况下，重载信息写入 Cisco 12000 千兆路由处理器 (GRP)、Cisco 7000 和 7500 路由交换机处理器 (RSP) 以及 Cisco 7200 系列路由器上的 **bootflash:crashinfo**。对于 Cisco 7500 通用接口处理器 2 (VIP2)，默认情况下此文件被保存到 **bootflash:vip2_slot_no_crashinfo**，其中 slot_no 为 VIP2 插槽编号。对于 Cisco 7000 路由处理器 (RP)，默认情况下，该文件保存到 **flash: Crash** 信息。

默认 Crashinfo 文件的生成最先在下列 Cisco IOS 软件版本中引入：

- 对于 RSP 和 RP：11.1(13)CA111.1(19)CC11.2(10)P11.3(1)11.3(1)T
- 对于 Cisco 7200：11.1(18)CA11.2(15)P11.3(6)11.3(6)AA11.3(6)NA11.3(6)T
- 对于 Cisco 12000 GRP：11.2(11)GS2.111.2(9)GS7.211.2(14)GS2.5

对于下列平台，Crashinfo 收集机制在 Cisco IOS 软件版本 12.0、12.1 和 12.2 中提供：

- 对于 Cisco 1700：12.1(2)12.1(2)T12.2(1)
- 对于 Cisco 2600：12.1(13)12.2(7)T12.2(7)
- 对于 Cisco 3600：12.2.(12)DA12.2(11)T12.2(11)

[崩溃信息文件的内容](#)

crashinfo 文件包含以下这些信息：

- 有限的错误消息（日志）和命令历史记录
- 对在崩溃发生时运行的镜像的说明
- **show alignment**
- malloc 和自由跟踪
- 进程级堆栈跟踪
- 进程级上下文
- 进程级堆栈转储
- 中断级堆栈转储
- 进程级信息
- 进程级寄存器内存转储

[从崩溃信息文件中检索信息](#)

若 Bootflash 中存在 Crashinfo，则在 **show stack** 命令输出结束时显示以下内容：

```
*****
***** Information of Last System Crash *****
*****

Using bootflash:crashinfo_20000323-061850. 2000
CMD: 'sh int fas' 03:23:41 UTC Thu Mar 2 2000
CMD: 'sh int fastEthernet 6/0/0' 03:23:44 UTC Thu Mar 2 2000
CMD: 'conf t' 03:23:56 UTC Thu Mar 2 2000
CMD: 'no ip cef di' 03:23:58 UTC Thu Mar 2 2000
CMD: 'no ip cef distributed ' 03:23:58 UTC Thu Mar 2 2000
...
```

发出下列命令以检索 Crashinfo 文件：

```
Router#dir bootflash: Directory of bootflash:/ 1 -rw- 4088008 Oct 07 1999 04:51:29 rsp-boot-
mz.120-6.6 2 -rw- 178619 Mar 23 2000 06:18:50 crashinfo_20000323-061850 7602176 bytes total
(3335292 bytes free) Router# Router#more bootflash:crashinfo_20000323-061850 2000 CMD: 'sh int
fas' 03:23:41 UTC Thu Mar 2 2000 CMD: 'sh int fastEthernet 6/0/0' 03:23:44 UTC Thu Mar 2 2000
CMD: 'conf t' 03:23:56 UTC Thu Mar 2 2000 CMD: 'no ip cef DI 03:23:58 UTC Thu Mar 2 2000 CMD:
'no ip cef distributed ' 03:23:58 UTC Thu Mar 2 2000 CMD: 'ip cef' 03:24:01 UTC Thu Mar 2 2000
...
```

[复制崩溃信息文件到 TFTP 服务器](#)

发出下列命令以将 Crashinfo 文件复制到简单文件传输协议 (TFTP) 服务器：

```
Router#dir bootflash: 1 -rw- 4088008 Oct 07 1999 04:51:29 rsp-boot-mz.120-6.6 2 -rw- 178619 Mar
23 2000 06:18:50 crashinfo_20000323-061850 Router#copy bootflash:crashinfo_20000323-061850 tftp
Address or name of remote host []? 10.1.1.1 Destination filename [crashinfo_20000323-061850 ]?
!!
```

如果辅助 RSP 崩溃，请在 **slavebootflash:** 中查找。对于 Cisco 12000 GSR，请在 **sec-bootflash:** 中查找。通过使用 **dir bootflash:** 确保 Bootflash 内有足够的可用空间命令。要删除旧的 Crashinfo 文件来释放可用空间，可发出 **delete bootflash:filename** 命令。**delete bootflash:filename** 命令将文件标为删除，但该文件实际上仍在内存中，并且可以恢复。要将文件从内存中彻底删除，可发出 **squeeze bootflash:** 命令。

如果路由器多次崩溃，Crashinfo 文件会堆叠，只能查看最后一个 Crashinfo 文件。例如：

```
Router#dir /all bootflash: #- ED --type-- --crc--- -seek-- nlen -length- -----date/time-----
name 1 .. unknown FD38E5C7 3FD81C 25 3921820 Oct 02 1998 14:43:56 rsp-boot-mz.112-15a.P.bin 2 .D
config AF12EF9F 41C308 9 125547 Oct 16 1998 11:10:10 crashinfo 3 .. config 33DEAF65 43A950 9
124360 Oct 16 1998 11:15:50 crashinfo 3430064 bytes available (4172112 bytes used)
```

注意：一个文件被删除，一个可以查看。

```
Router#show file bootflash:crashinfo Compliance with U.S. Export Laws and Regulations -
Encryption This product performs encryption and is regulated for export by the US Government.
..... file continues here.... Router#dir /all bootflash: #- ED --type-- --crc--- -seek-- nlen -
length- -----date/time----- name 1 .. unknown FD38E5C7 3FD81C 25 3921820 Oct 02 1998 14:43:56
rsp-boot-mz.112-15a.P.bin 2 .D config AF12EF9F 41C308 9 125547 Oct 16 1998 11:10:10 crashinfo 3
.. config 33DEAF65 43A950 9 124360 Oct 16 1998 11:15:50 crashinfo 3430064 bytes available
(4172112 bytes used)
```

要删除您刚刚查看的文件，请执行以下命令：

```
Router#delete bootflash:crashinfo Router#dir /all bootflash: #- ED --type-- --crc--- -seek--
nlen -length- -----date/time----- name 1 .. unknown FD38E5C7 3FD81C 25 3921820 Oct 02 1998
14:43:56 rsp-boot-mz.112-15a.P.bin 2 .D config AF12EF9F 41C308 9 125547 Oct 16 1998 11:10:10
crashinfo 3 .D config 33DEAF65 43A950 9 124360 Oct 16 1998 11:15:50 crashinfo 3430064 bytes
available (4172112 bytes used)
```

要恢复旧的文件，请执行以下命令：

```
Router#undelete ? <0-700000> File index Router#undelete 2 File undelete error (file not found)
Router#undelete 2 ? WORD Device name Router#undelete 2 bootflash: Router#dir /all bootflash: #-
ED --type-- --crc--- -seek-- nlen -length- -----date/time----- name 1 .. unknown FD38E5C7
3FD81C 25 3921820 Oct 02 1998 14:43:56 rsp-boot-mz.112-15a.P.bin 2 .. config AF12EF9F 41C308 9
125547 Oct 16 1998 11:10:10 crashinfo 3 .D config 33DEAF65 43A950 9 124360 Oct 16 1998 11:15:50
crashinfo 3430064 bytes available (4172112 bytes used)
```

使用 **show file bootflash:crashinfo** 命令检查旧的文件。重复此步骤以查看更早的崩溃内容。

[崩溃信息文件示例](#)

以下是 Crashinfo 文件的示例：

=== Flushing messages (07:12:39 UTC Tue Jul 18 2000) ===

Buffered messages:

```
00:00:35: %RSP-3-NOSTART: No microcode for Unknown card, slot 4
00:00:43: %SYS-4-CONFIG_NEWER: Configuration from version 12.1 may not be correctly
understood
00:00:44: %SYS-5-CONFIG_I: Configured from memory by console
00:00:44: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/1, changed state
to down
00:00:44: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/2, changed state
to down
00:00:44: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/3, changed state
to down
00:00:44: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/4, changed state
to down
00:00:44: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/5, changed state
to down
00:00:44: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/0, changed state
to down
00:00:44: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state
to down
00:00:48: %SYS-5-RESTART: System restarted --
Cisco Internetwork Operating System Software
IOS (tm) RSP Software (RSP-PV-M), Version 12.0(10.6)ST, EARLY DEPLOYMENT MAINTENANCE
INTERIM SOFTWARE
Copyright (c) 1986-2000 by cisco Systems, Inc.
Compiled Fri 23-Jun-00 16:02 by richv
00:00:53: %LINK-5-CHANGED: Interface Ethernet0/2, changed state to administratively down
00:00:53: %LINK-5-CHANGED: Interface Ethernet0/3, changed state to administratively down
00:00:53: %LINK-5-CHANGED: Interface Ethernet0/4, changed state to administratively down
00:00:53: %LINK-5-CHANGED: Interface Ethernet0/5, changed state to administratively down
00:00:53: %LINK-5-CHANGED: Interface FastEthernet9/1/0, changed state to administratively
down
00:00:53: %LINK-3-UPDOWN: Interface Ethernet0/0, changed state to up
00:00:53: %LINK-3-UPDOWN: Interface Ethernet0/1, changed state to up
00:00:53: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to up
00:00:54: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet9/1/0, changed
state to down
00:00:54: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/0, changed state
to up
00:00:54: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet0/1, changed state
to up
00:01:01: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to up
00:10:36: %LINK-3-UPDOWN: Interface FastEthernet9/1/0, changed state to up
00:10:37: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet9/1/0, changed
state to up
00:12:26: %SYS-5-CONFIG_I: Configured from console by console
00:36:42: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to down
00:36:43: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to down
00:37:40: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to up
00:37:49: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to up
00:38:19: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to down
00:38:20: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to down
00:39:27: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to up
00:39:36: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to up
14:20:06: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet9/1/0, changed state
to down
14:21:09: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet9/1/0, changed
state to up
14:22:54: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet9/1/0, changed
state to down
14:26:39: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet9/1/0, changed
state to up
```

16:00:16: %CLEAR-5-COUNTERS: Clear counter on all interfaces by console
16:10:09: %SYS-5-CONFIG_I: Configured from console by console
16:10:28: %SYS-5-CONFIG_I: Configured from console by console
16:10:58: %LINK-5-CHANGED: Interface Hssi9/0/1, changed state to administratively down
16:10:59: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to down
16:11:03: %SYS-5-CONFIG_I: Configured from console by console
16:11:03: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to up
16:11:15: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to up
16:12:56: %RSP-3-NOSTART: No microcode for Unknown card, slot 4
16:13:03: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to down
16:13:16: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to up
16:14:01: %SYS-5-CONFIG_I: Configured from console by console
16:14:13: %CLEAR-5-COUNTERS: Clear counter on all interfaces by console
18:00:11: %SYS-5-CONFIG_I: Configured from console by vty0 (144.254.2.77)
18:00:29: %SYS-5-CONFIG_I: Configured from console by vty0 (144.254.2.77)
19:36:09: %SYS-5-CONFIG_I: Configured from console by vty0 (144.254.2.77)
21:06:20: %SYS-5-CONFIG_I: Configured from console by console
21:10:28: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to down
21:10:29: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to down
21:11:30: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to up
21:11:31: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to up
21:12:01: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to down
21:12:09: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to down
21:13:22: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to up
21:13:38: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to up
21:14:08: %LINEPROTO-5-UPDOWN: Line protocol on Interface Hssi9/0/1, changed state to down
21:37:24: %LINK-3-UPDOWN: Interface Hssi9/0/1, changed state to down
21:45:03: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet9/1/0, changed state to down

Queued messages:

22:13:19: %SYS-3-LOGGER_FLUSHING: System pausing to ensure console debugging output.

22:13:19: %SYS-3-LOGGER_FLUSHED: System was paused for 00:00:00 to ensure console debugging output.

=== Start of Crashinfo Collection (07:12:39 UTC Tue Jul 18 2000) ===

For image:

Cisco Internetwork Operating System Software
IOS (tm) RSP Software (RSP-PV-M), Version 12.0(10.6)ST, EARLY DEPLOYMENT MAINTENANCE
INTERIM SOFTWARE

Copyright (c) 1986-2000 by cisco Systems, Inc.

Compiled Fri 23-Jun-00 16:02 by richv

=====
Show Alignment
=====

No alignment data has been recorded.

No spurious memory references have been recorded.

=====
Malloc and Free Traces
=====

MallocFree Trace: ixmallocfree=0x30 ptr=0x6121E5D0 6121E450: 619510A4 6026ED7C
61955EC0 6026ED7C 6196FDD8 6026ED7C 6197FDD4 6026ED7C 6121E470: 619A0D1C 6026ED7C
619B0DE8 6026ED7C 619D6A18 6026ED7C 619E6A14 6026ED7C 6121E490: 619F6A10 6026ED7C
61A06A0C 6026ED7C 61A16A08 6026ED7C 61A26A04 6026ED7C 6121E4B0: 61A39B20 6026ED7C
61A3D46C 6026ED7C 61A52900 6026ED7C 61A68B74 6026ED7C 6121E4D0: 61A5B358 6026ED7C
61AD9600 6026ED7C 61AD9E40 6026ED7C 61AE9E3C 6026ED7C 6121E4F0: 61AF9E38 6026ED7C
61B09E34 6026ED7C 61B211A0 6026ED7C 61A8E6BC 6026ED7C 6121E510: 61AA201C 6026ED7C
61B209E8 6044EEA8 61B20A40 6044EEA8 61B20A98 6044EEA8 6121E530: 61B20AF0 6044EEA8
61B20B48 6044EEA8 61B20BA0 6044EEA8 61AB5450 603FBE50 6121E550: 61AB5450 603FBE50
61AB25F8 60212C2C 61AB265C 60000164 61A7EC5C 30000020 6121E570: 61A7EC5C 602120DC
61A8839C 3000001E 61A8839C 60474D38 6150FBB4 60474FC4 6121E590: 612AF924 60284B40
61B46488 6023E360 61B4ABB8 6325AA24 61A3CCD8 6023E378 6121E5B0: 6150FB68 60212C2C
6150FBB4 60000016 612B29B4 3000001E 612B29B4 602120DC 6121E5D0: 613CA880 601FC4F8
616F8DA0 6026ED7C 61708D9C 6026ED7C 61718D98 6026ED7C 6121E5F0: 61728D94 6026ED7C
617440C4 6026ED7C 61744308 6026ED7C 61759038 6026ED7C 6121E610: 61770034 6026ED7C
6178AD60 6026ED7C 6179AD5C 6026ED7C 617AAD58 6026ED7C 6121E630: 617BAD54 6026ED7C
61912A5C 6026ED7C 6192C004 6026ED7C 61940974 6026ED7C

=====
Stack Trace
=====

-Traceback= 60287EE8 602B8D5C 6021CAF4 6022834C 6026BC4C 6026BC38

=====
Context
=====

RSP Software (RSP-PV-M), Version 12.0(10.6)ST, EARLY DEPLOYMENT MAINTENANCE INTERIM SOFTWARE

Compiled Fri 23-Jun-00 16:02 by richv

Signal = 23, Code = 0x24, Uptime 22:13:19

\$0 : 00000000, AT : 61220000, v0 : 00000032, v1 : 61222AF0

a0 : 60227BDC, a1 : 6129B958, a2 : 61AD82F8, a3 : 00000000

t0 : 61A3BA34, t1 : 8000FDA0, t2 : 34008700, t3 : FFFF00FF

t4 : 00000083, t5 : 3E840024, t6 : 00000000, t7 : 00000000

s0 : 0000003C, s1 : 00000036, s2 : 00000000, s3 : 61B33FF8

s4 : 00000000, s5 : 6121E840, s6 : 61209A30, s7 : 00000000

t8 : 602895EC, t9 : 00000000, k0 : 616DD144, k1 : 60290920

gp : 610AEDC0, sp : 61B33FE0, s8 : 6120FB00, ra : 602B8D5C

EPC : 60287EE8, SREG : 3400E703, Cause : 00000024

Error EPC : EFF5BFE7, BadVaddr : 403208D9

=====
Stack Dump
=====

Stack Frame Pointer in Context is 0x61B33FE0, at process level

61B33BE0:	3	0	8	1	602086F0	60209F0C	0	1
61B33C00:	7FFFFFFD	2	0	3	61B312F0	60209F0C	616E48B4	60208E1C
61B33C20:	616E48B4	FFFFFFFF	61B33BDF	20000	614CA664	0	0	1
61B33C40:	7FFFFFFFA	5	0	5	61537304	60209F0C	0	1
61B33C60:	7FFFFFFFA	5	0	5	61537304	60209F0C	0	F
61B33C80:	A	60209A78	61B312F2	1	30B33CD8	0	7FFFFFFF	1
61B33CA0:	0	9	6038DD10	EF	1	F3	0	C
61B33CC0:	61B33CC0	9	61153CC8	61B33FE8	61B34054	FFFFFFFF8	0	0
61B33CE0:	6129B958	0	601EE388	6129B958	20220	65	60283F98	20
61B33D00:	4A	60208E1C	6129B958	602B66C4	601EE1D0	4	6129B958	0
61B33D20:	601EE1D8	601EE1C8	603981A4	60208E1C	FFFFFFFF	1	3C	6129B958
61B33D40:	0	61B33FF8	A	1	602086F0	6129C2CC	36	1
61B33D60:	602086F0	B0B0B0B0	B0B0B0B0	B0B0B0B0	B0B0B0B0	B0B0B0B0	0	B0B0B0B0
61B33D80:	0	6129C3CD	7FFFFFFFE	0	0	1	60E10000	60209BB8
61B33DA0:	0	7FFFFFFF	7FFFFFFE3	1C	0	1C	61B33FA8	60209F0C
61B33DC0:	6129C1BC	6129B958	61B33FD0	61B33FF8	A	1	602086F0	6038DB78
61B33DE0:	61B34120	6129B958	602087AC	2D	A	1	602086F0	1
61B33E00:	616DBEB0	98967D	0	0	0	4	602086F0	FFFFFFFF30
61B33E20:	616DBE8C	0	602204DC	0	61B33FC4	60E0F5DA	7D0	0
61B33E40:	4	610A7CD6	60E0F5D8	61B33EE0	0	60208ABC	61B33FC4	1
61B33E60:	60E0F601	61B33E88	0	1	3C	36	0	61B33FF8
61B33E80:	0	23	61209A30	60208E1C	612B2990	0	602120DC	0
61B33EA0:	0	0	6129C668	61B33EF0	0	602120DC	61116268	2
61B33EC0:	7FFFFFFD	D	10000000	60272480	1	100	60212C2C	6129C41C
61B33EE0:	0	6129C3CD	602120DC	61B33FF8	64	A	6129C668	6129C3CD
61B33F00:	61B33FD0	61B33FF8	610A7E80	A	7FFFFFFD	602120E4	61B33FD0	61B33FF8
61B33F20:	610A7E80	A	6129C1BC	6129C3CD	602106E0	602103FC	61209A30	0
61B33F40:	6120FB00	60208A04	61B33FC8	1	0	4C4B0E4	0	0
61B33F60:	61A3BB9C	36	0	61B33FF8	0	6121E840	61209A30	0
61B33F80:	6027A0F8	36	60213150	61B33FC8	7FFFFFFD	7FFFFFFF	6027A1EC	6027A1E0
61B33FA0:	4A	61B33FF8	64	36	0	4C4B0E4	64	6027E2F8
61B33FC0:	3C	60208CCC	60E4C2C8	61B33FE4	602B8D4C	7FFFFFFF	3C	602B8D54
61B33FE0:	60E4C2A4	7FFFFFFD	0	7FFFFFFE	5	60E3B024	36008935	61537A18
61B34000:	602677B4	61B3408C	60260394	400000	0	0	0	7FFFFFFF
61B34020:	60E23C4C	61B34020	0	0	0	7FFFFFFF	61B340B0	61537A20
61B34040:	0	0	0	0	7FFFFFFD	1	61537A18	0
61B34060:	0	0	0	0	0	60208980	0	601F2698
61B34080:	60E163C6	61B340B0	0	7FFFFFFF	61537A18	61537A18	6021C068	6021C040
61B340A0:	0	60E163B8	6153892B	61B340B0	30373A31	313A3534	20555443	20547565
61B340C0:	204A756C	20313820	32303030	FFFFFFF	0	0	2400000	61537A18
61B340E0:	60E23C78	60E23C4C	6021B744	7FFFFFFF	61537A18	614D2EE4	5	0
61B34100:	6021B74C	6021B63C	1	6129BAE8	0	61537A18	0	1

```

61B34120:      0 6121E840 61209A30      0      0 6021CAF4 61B34140      0
61B34140:      4A      1      0      0      0      5      0 6129B958
61B34160: 61537A18      0      0      1      0 6129BAE8 61209A30 6022834C
61B34180: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF      1 610A8124 6153890C FFFFFFFF
61B341A0:      1 DFFFFFFF FFFFFFFF 6129C3CD      0      0      0      0
61B341C0:      0      0      0      0      0 6026BC4C FFFFFFFF FFFFFFFF
61B341E0: FFFFFFFF FFFFFFFF 6026BC38 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF
61B34200: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FD0110DF AB1234CD      19
61B34220: 614F3BF8 60E34110 6023E098 61B38948 61B31320 80002384      1 6023E360
61B34240: AFACEFAD      0      0      0      0      0      0      0      0
61B34260:      0      0      0      0      0      0      0      0      0
61B34280:      0      0      0      0      0      0      0      0      0
61B342A0:      0      0      0      0      0      0      0      0      0
61B342C0:      0      0      0      0      0      0      0      0      0
61B342E0:      0      0      0      0      0      0      0      0      0
61B34300:      0      0      0      0      0      0      0      0      0
61B34320:      0      0      0      0      0      0      0      0      0
61B34340:      0      0      0      0      0      0      0      0      0
61B34360:      0      0      0      0      0      0      0      0      0
61B34380:      0      0      0      0      0      0      0      0      0
61B343A0:      0      0      0      0      0      0      0      0      0
61B343C0:      0      0      0      0      0      0      0      0      0

```

=====
Process Level Info
=====

---- Current Process Block (at 0x61A3BA34) ----

```

61A3BA0C: AB1234CD      4A 61A3BA34 60E432B4 60290684 61A3BC50 61A3B88C 8000010E
61A3BA2C:      1 606FB390 61B31334 8000FDA0 60227BDC 6129B958      64      36
61A3BA4C:      0 61B33FF8      0 6121E840 61209A30      0 6120FB00 61B341F0
61A3BA6C:      0 6027E32C      0      0      0      0 10100      1
61A3BA8C:      0      0      0      4A      0      0 10492E8 1040BB8
61A3BAAC:      0      0      0 ED58      0 6129B958 F084C      0
61A3BACC:      0 4C4B0E4      0 4C4B0E4 435CC9 AA0EE 60E0EEE4      3
61A3BAEC:      0      0      73      52      2EE0      2EE0 6129B958      0
61A3BB0C:      0      0      0      0      0      0      0 61B1A00C
61A3BB2C: 61A3BA34 6121E800      0      0 61222C80      0      0      0
61A3BB4C:      4230      0      0      0 61A3BB34      0      0      0
61A3BB6C:      4280 61A3BA34      0      0      0 61A3BB34 61A3BA34
61A3BB8C:      0      0 142D0      0      0      0 61A3BB34 61A3BA34
61A3BBAC:      0      0 242F0      0      0      0      0      0
61A3BBCC:      0 61754D5C      0      0      0      0      0      0
61A3BBEC:      0      0      0 61754DB8 61A3BBE4 61754D64      0 61223950
61A3BC0C:      0      0      0 FFFFFFFF FFFFFFFF      0      0      0
61A3BC2C:      0      0      0      0      0 61AA1F10      0 BEEFCAFE

```

---- Partial decode of process block ----

Pid 74: Process "Exec" stack 0x61B31334 savedsp 0x8000FDA0

Flags: analyze crashblock on_old_queue

Regs s0-s8,ra at last suspend; a0,a1,sp from proc creation, PC unused:

```

a0: 60227BDC a1: 6129B958 s0: 00000064 s1: 00000036 s2: 00000000
s3: 61B33FF8 s4: 00000000 s5: 6121E840 s6: 61209A30 s7: 00000000
s8: 6120FB00 sp: 61B341F0 PC: 00000000 ra: 6027E32C

```

```

Status      0x00000000 Orig_ra      0x00000000 Routine      0x00000000 Signal 0
Caller_pc   0x00000000 Callee_pc   0x00000000 Dbg_events  0x00000000 State 0
Totmalloc   17076968 Totfree    17042360 Totgetbuf   0
Totretbuf   0 Edisms     0x0 Eparm       0x6129B958
Elapsed     0xF084C Ncalls     0x435CC9 Ngiveups    0xAA0EE
Priority_q   3 Ticks_5s   0 Cpu_5sec   0 Cpu_lmin   115
Cpu_5min    82 Stacksize  0x2EE0 Lowstack    0x2EE0
Ttyptr      0x6129B958 Mem_holding 0x0 Thrash_count 0
Wakeup_reasons      0x0FFFFFFF Default_wakeup_reasons 0x0FFFFFFF
Direct_wakeup_major 0x00000000 Direct_wakeup_minor    0x00000000

```

---- Current Process Stack (0xB44 bytes used, out of 0x2EE0 available) ----

Current SP = 0x61B33FE0, saved SP = 0x8000FDA0

```

61B33E14:      4 602086F0 FFFFFFFF30 616DBE8C      0 602204DC      0 61B33FC4
61B33E34: 60E0F5DA      7D0      0      4 610A7CD6 60E0F5D8 61B33EE0      0
61B33E54: 60208ABC 61B33FC4      1 60E0F601 61B33E88      0      1      3C
61B33E74:      36      0 61B33FF8      0      23 61209A30 60208E1C 612B2990
61B33E94:      0 602120DC      0      0      0 6129C668 61B33EF0      0
61B33EB4: 602120DC 61116268      2 FFFFFFFFD      D 10000000 60272480      1
61B33ED4:      100 60212C2C 6129C41C      0 6129C3CD 602120DC 61B33FF8      64
61B33EF4:      A 6129C668 6129C3CD 61B33FD0 61B33FF8 610A7E80      A FFFFFFFFD
61B33F14: 602120E4 61B33FD0 61B33FF8 610A7E80      A 6129C1BC 6129C3CD 602106E0
61B33F34: 602103FC 61209A30      0 6120FB00 60208A04 61B33FC8      1      0
61B33F54: 4C4B0E4      0      0 61A3BB9C      36      0 61B33FF8      0
61B33F74: 6121E840 61209A30      0 6027A0F8      36 60213150 61B33FC8 FFFFFFFFD
61B33F94: FFFFFFFF 6027A1EC 6027A1E0      4A 61B33FF8      64      36      0
61B33FB4: 4C4B0E4      64 6027E2F8      3C 60208CCC 60E4C2C8 61B33FE4 602B8D4C
61B33FD4: FFFFFFFF      3C 602B8D54 60E4C2A4 FFFFFFFFD      0 FFFFFFFFE      5
61B33FF4: 60E3B024 36008935 61537A18 602677B4 61B3408C 60260394 400000      0
61B34014:      0      0 FFFFFFFF 60E23C4C 61B34020      0      0      0
61B34034: FFFFFFFF 61B340B0 61537A20      0      0      0      0 FFFFFFFFD
61B34054:      1 61537A18      0      0      0      0      0      0
61B34074: 60208980      0 601F2698 60E163C6 61B340B0      0 FFFFFFFF 61537A18
61B34094: 61537A18 6021C068 6021C040      0 60E163B8 6153892B 61B340B0 30373A31
61B340B4: 313A3534 20555443 20547565 204A756C 20313820 32303030 FFFFFFFF      0
61B340D4:      0 2400000 61537A18 60E23C78 60E23C4C 6021B744 FFFFFFFF 61537A18
61B340F4: 614D2EE4      5      0 6021B74C 6021B63C      1 6129BAE8      0
61B34114: 61537A18      0      1      0 6121E840 61209A30      0      0
61B34134: 6021CAF4 61B34140      0      4A      1      0      0      0
61B34154:      5      0 6129B958 61537A18      0      0      1      0
61B34174: 6129BAE8 61209A30 6022834C FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF      1
61B34194: 610A8124 6153890C FFFFFFFF      1 DFFFFFFF FFFFFFFF 6129C3CD      0
61B341B4:      0      0      0      0      0      0      0      0
61B341D4: 6026BC4C FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 6026BC38 FFFFFFFF FFFFFFFF
61B341F4: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF

```

==== Interrupt Level Stack Dump =====

WARNING: Interrupt stack dumps are consistent ONLY for interrupts which are blocked during exception handling. Also register output is valid ONLY for interrupts which store an r4k_context block on the stack.

---- Level 1 Interrupt stack (0x3BC bytes used, out of 0x2328 available) ----

```

intstacks[1]: base 0x61502F44 stack 0x61505268 routine 0x602CB5A4 count 0x15B17FD
                size 0x2328      low 0x2328      desc 0x60E49E58

61504EB0:      0 6019F318 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF
61504ED0: 6129B958 612581A0 612581A0 48009CE0 AC82817 4061E5E8      0 61207AB0
61504EF0: 612581A0 601BADFC 61758CA4 61758B5C      0 6125F280      0 4ADB38C
61504F10:      0 4ADB388 61222C80      1      8 60E40000      5A      5A
61504F30: 61A3BB24      0 61758CA4 61758B5C      0 612581A0 6027A968 6027F4C0
61504F50: 6176B108 6176AFC0      0 612581A0 6027A968 61758B5C 6023E628 6027EEEE0
61504F70:      8 6176AFC0      8 6176AFC0      8 6027EEEE0      8 614F0630
61504F90:      8 614F0630      8 6027EEEE0      1 6027F4C0 61812740 612581A0
61504FB0: 614F40AC 614BEE54      1 6027F4C0 615076E0 6027FB80 614BEE54 612581A0
61504FD0: 614BEE54 612581A0 615076E0 6027FB80      3C      3C 602BF0C4      0
61504FF0: 61869450 6024DE78 615076E0 602BF0C4 61869450 612581A0 6024DE44      0
61505010: 615076E0 612581A0      EE 61869450 615076E0 612581A0      EE 602BF360
61505030:      200 6111E828 61A3BB24      0      7 612581A0 405BBA5A      7
61505050:      200 6111E828 602C15B0 602C136C 615076E0      7 405BBA68      E0
61505070: 61A8C144 612581A0 612581A0 4800AC10 585BBA5A 602CE360 FFFFFFFF FFFFFFFF
61505090: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF
615050B0: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF

```


615050D0: 0 2AB60919 FFFFFFFF 0 60 1000C00 0 FFFFFFFF
615050F0: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 61A8C144 61222CB0
61505110: 8000FE30 0 1 0 61B1A00C 0 61220000 6028BEE8
61505130: FFFFFFFF FFFFFFFF 0 61220000 0 1 0 61A8C234
61505150: 0 0 0 4C4A138 0 0 0 0
61505170: 0 61222FA0 0 61AA07A8 0 1 FFFFFFFF FFFF00FF
61505190: 0 83 0 3E840024 0 400 0 0
615051B0: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF
615051D0: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF
615051F0: 0 602895EC 0 0 0 616DD144 0 60290920
61505210: FFFFFFFF FFFFFFFF FFFFFFFF 8000FE20 FFFFFFFF FFFFFFFF 0 60294680
61505230: 3400E703 FFFFFFFF FFFFFFFF 932D9556 FFFFFFFF FD40711A FFFFFFFF FFFFFFFF
61505250: FFFFFFFF FFFFFFFF 0 60292830 FFFFFFFF FFFFFFFF FFFFFFFF

\$0 : FFFFFFFF, AT : 61220000, v0 : 00000001, v1 : 61A8C234
a0 : 00000000, a1 : 04C4A138, a2 : 00000000, a3 : 00000000
t0 : 61222FA0, t1 : 61AA07A8, t2 : 00000001, t3 : FFFF00FF
t4 : 00000083, t5 : 3E840024, t6 : 00000400, t7 : 00000000
s0 : FFFFFFFF, s1 : FFFFFFFF, s2 : FFFFFFFF, s3 : FFFFFFFF
s4 : FFFFFFFF, s5 : FFFFFFFF, s6 : FFFFFFFF, s7 : FFFFFFFF
t8 : 602895EC, t9 : 00000000, k0 : 616DD144, k1 : 60290920
gp : FFFFFFFF, sp : 8000FE20, s8 : FFFFFFFF, ra : 60294680
EPC : 60292830, ErrorEPC : FFFFFFFF, SREG : 3400E703

---- Level 2 Interrupt stack (0x3C8 bytes used, out of 0x2328 available) ----

...
...
...

---- Level 7 Interrupt stack (0x190 bytes used, out of 0x2328 available) ----

intstacks[7]: base 0x61297120 stack 0x61299440 routine 0x6028B3D8 count 0x1313314
size 0x2328 low 0x2328 desc 0x60E40D18

612992B8: 0 AF5C 0 4C4B0E4 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF
612992D8: 61A4F0CC 1680 61220000 6028B4E8 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF
612992F8: 6028A2BC 38 6028B2DC FFFFFFFF FFFFFFFF FFFFFFFF 0 24
61299318: 0 121A3 0 3 0 7CDEBEBE 0 3E8
61299338: 0 3E8 0 8 0 F4240 0 34008001
61299358: 0 34008000 FFFFFFFF FFFF00FF 0 6107EEF0 0 FF
61299378: 0 6107EC98 0 8B4CEA FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF
61299398: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF
612993B8: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 0 39AF 0 0
612993D8: 0 61221940 0 0 FFFFFFFF FFFFFFFF 0 6107EA20
612993F8: FFFFFFFF FFFFFFFF 0 6028B170 34008003 FFFFFFFF 0 1E848
61299418: 0 0 FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF 0 6028B2DC
61299438: FFFFFFFF FFFFFFFF FFFFFFFF FFFFFFFF

\$0 : FFFFFFFF, AT : 00000024, v0 : 00000000, v1 : 80808080
a0 : 00004DC0, a1 : 0053348C, a2 : 6107EA40, a3 : 00000004
t0 : 29292929, t1 : 34008001, t2 : 34008000, t3 : FFFF00FF
t4 : 6107EEF0, t5 : 000000FF, t6 : 6107EC98, t7 : 008B4CEA
s0 : FFFFFFFF, s1 : FFFFFFFF, s2 : FFFFFFFF, s3 : FFFFFFFF
s4 : FFFFFFFF, s5 : FFFFFFFF, s6 : FFFFFFFF, s7 : FFFFFFFF
t8 : 000039AF, t9 : 00000000, k0 : 61221940, k1 : 00000000
gp : FFFFFFFF, sp : 6107EA30, s8 : FFFFFFFF, ra : 60395FBC
EPC : 60395FB4, ErrorEPC : FFFFFFFF, SREG : 34008003

==== Register Memory Dump =====

Reg00(\$0): 0 [Not RAM Addr]
Reg01(AT): 61220000
Reg02(v0): 32 [Not RAM Addr]
Reg03(v1): 61222AF0
Reg04(a0): 60227BDC
Reg05(a1): 6129B958 [In malloc Block 0x6129B930] [Last malloc Block 0x6129B850]

```

Reg06(a2): 61AD82F8 [In malloc Block 0x61AD82D0]
Reg07(a3):      0 [Not RAM Addr]
Reg08(t0): 61A3BA34 [In malloc Block 0x61A3BA0C] [Last malloc Block 0x61A3B878]
Reg09(t1): 8000FDA0
Reg10(t2): 34008700 [Not RAM Addr]
Reg11(t3): FFFF00FF [Not RAM Addr]
Reg12(t4):      83 [Not RAM Addr]
Reg13(t5): 3E840024 [Not RAM Addr]
Reg14(t6):      0 [Not RAM Addr]
Reg15(t7):      0 [Not RAM Addr]
Reg16(s0):      3C [Not RAM Addr]
Reg17(s1):      36 [Not RAM Addr]
Reg18(s2):      0 [Not RAM Addr]
Reg19(s3): 61B33FF8
Reg20(s4):      0 [Not RAM Addr]
Reg21(s5): 6121E840
Reg22(s6): 61209A30
Reg23(s7):      0 [Not RAM Addr]
Reg24(t8): 602895EC
Reg25(t9):      0 [Not RAM Addr]
Reg26(k0): 616DD144 [In malloc Block 0x616DD0FC] [Last malloc Block 0x616DCFD0]
Reg27(k1): 60290920
Reg28(gp): 610AEDC0
Reg29(sp): 61B33FE0
Reg30(s8): 6120FB00
Reg31(ra): 602B8D5C

```

```
---- block0 ptr=61220000 is_malloc=0 ----
```

```

6121FFC0:      0      0      0      0      0      0      0      0      0
6121FFE0:      0      0      0      0      0      0      0      0      0
61220000:      0      0      0      0      0      0      0      0      0
61220020:      0      0      0      0      0      0      0      0      0
61220040:      0      0      0      0      0      0      0      0      0
61220060:      0      0      0      0      0      0      0      0      0
61220080:      0      0 602833AC      0      0 602833AC      0      0
612200A0: 602833AC      0      0 602833AC      0      0 602833AC      0
612200C0:      0 602833AC      0      0 602833AC      68      0 602833AC
612200E0:      0      0      0      0      0      0      0      0 603F0E50

```

```
---- block1 ptr=61222AF0 is_malloc=0 ----
```

```
...
...
...
```

```
---- block95 ptr=66682064 is_malloc=0 ----
```

```

66682024:      0      0      0      0      0      0      0      0      0
66682044:      0      0      0      0      0      0      0      0      0
66682064:      0      0      0      0      0      0      0      0      0
66682084:      0      0      0      0      0      0      0      0      0
666820A4:      0      0      0      0      0      0      0      0      0
666820C4:      0      0      0      0      0      0      0      0      0
666820E4:      0      0      0      0      0      0      0      0      0
66682104:      0      0      0      0      0      0      0      0      0
66682124:      0      0      0      0      0      0      0      0      0
66682144:      0      0      0      0      0      0      0      0      0

```

```
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```

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