

Retrieving Information from the Crashinfo File

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Introduction

This document explains what a crashinfo file is, what a crashinfo file contains, and how to retrieve information from the crashinfo file.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document is based on these software and hardware versions:

- Cisco 1700, 3600, 7000, 7200, 7500, and 12000 Series Routers
- Cisco IOS® Software Release 11.1 and later

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Background

The crashinfo file is a collection of useful information related to the current crash stored in boot Flash or Flash memory.

When a router crashes due to data or stack corruption, more reload information is needed to debug this type of crash than just the output from the normal **show stacks** command. The reload information is written by

default to **bootflash:crashinfo** on the Cisco 12000 Gigabit Router Processor (GRP), the Cisco 7000 and 7500 Route Switch Processor (RSP), and the Cisco 7200 Series Routers. For the Cisco 7500 Versatile Interface Processor 2 (VIP2), this file is stored by default to **bootflash:vip2_slot_no_crashinfo** where the slot_no is the VIP2 slot number. For the Cisco 7000 Route Processor (RP), the file is stored by default to **flash:crashinfo**.

Generation of the default crashinfo file was first introduced in the following Cisco IOS software releases:

- For RSPs and RPs:
 - ◆ 11.1(13)CA1
 - ◆ 11.1(19)CC
 - ◆ 11.2(10)P
 - ◆ 11.3(1)
 - ◆ 11.3(1)T
- For Cisco 7200s:
 - ◆ 11.1(18)CA
 - ◆ 11.2(15)P
 - ◆ 11.3(6)
 - ◆ 11.3(6)AA
 - ◆ 11.3(6)NA
 - ◆ 11.3(6)T
- For Cisco 12000 GRPs:
 - ◆ 11.2(11)GS2.1
 - ◆ 11.2(9)GS7.2
 - ◆ 11.2(14)GS2.5

The crashinfo collection mechanism is available in Cisco IOS Software Releases 12.0, 12.1, and 12.2 for these platforms:

- For Cisco 1700s:
 - ◆ 12.1(2)
 - ◆ 12.1(2)T
 - ◆ 12.2(1)
- For Cisco 2600s:
 - ◆ 12.1(13)
 - ◆ 12.2(7)T
 - ◆ 12.2(7)
- For Cisco 3600s:
 - ◆ 12.2.(12)DA
 - ◆ 12.2(11)T
 - ◆ 12.2(11)

Contents of the Crashinfo File

The crashinfo file contains this information:

- limited error message (log) and command history

- description of the image running at the time of the crash
- **show alignment**
- malloc and free traces
- process level stack trace
- process level context
- process level stack dump
- interrupt level stack dump
- process level info
- process level register memory dump

Retrieving Information from the Crashinfo File

When a crashinfo is available in boot Flash, this appears at the end of the **show stack** command output:

```
*****
***** 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
...
```

Issue these commands in order to retrieve a crashinfo file:

```
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
...
```

Copying the Crashinfo File to a TFTP Server

Issue these commands in order to copy the crashinfo file to a Trivial File Transfer Protocol (TFTP) server:

```
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 ]?
!!
```

If the slave RSP has crashed, look in the **slavebootflash:**. For the Cisco 12000 GSR, look in the **sec-bootflash:**. Ensure there is enough free space in boot Flash by using the **dir bootflash:** command. In order to delete an old crashinfo file to make free space, issue the **delete bootflash:filename** command. The **delete bootflash:filename** command marks the file as deleted, but the file is still physically in memory and can be restored. In order to physically delete it from memory, issue the **squeeze bootflash:** command.

If the router has crashed multiple times, the crashinfo files can stack up with only the last one viewable. For example:

```
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)
```

Note that one file is deleted and one is viewable.

```
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)
```

Delete the file you just looked at:

```
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)
```

Restore the old file:

```
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)

```

Examine the old file with the **show file bootflash:crashinfo** command. Repeat this procedure to review older crashes.

Example Crashinfo File

This is an example of a crashinfo file:

```

=== 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	7FFFFFFE	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 FFFFFFFD FFFFFFFF 6027A1EC 6027A1E0
61B33FA0:      4A 61B33FF8      64      36      0 4C4B0E4      64 6027E2F8
61B33FC0:      3C 60208CCC 60E4C2C8 61B33FE4 602B8D4C FFFFFFFF      3C 602B8D54
61B33FE0: 60E4C2A4 FFFFFFFD      0 FFFFFFFE      5 60E3B024 36008935 61537A18
61B34000: 602677B4 61B3408C 60260394 400000      0      0      0 FFFFFFFF 61B340B0 61537A20
61B34020: 60E23C4C 61B34020      0      0      0 FFFFFFFD 1 61537A18      0
61B34040:      0      0      0      0      0 FFFFFFFD      1 61537A18      0
61B34060:      0      0      0      0      0 60208980      0 601F2698
61B34080: 60E163C6 61B340B0      0 FFFFFFFF 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 FFFFFFFF 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 DFFFFFF 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
61B34260:      0      0      0      0      0      0      0      0
61B34280:      0      0      0      0      0      0      0      0
61B342A0:      0      0      0      0      0      0      0      0
61B342C0:      0      0      0      0      0      0      0      0
61B342E0:      0      0      0      0      0      0      0      0
61B34300:      0      0      0      0      0      0      0      0
61B34320:      0      0      0      0      0      0      0      0
61B34340:      0      0      0      0      0      0      0      0
61B34360:      0      0      0      0      0      0      0      0
61B34380:      0      0      0      0      0      0      0      0
61B343A0:      0      0      0      0      0      0      0      0
61B343C0:      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
61A3BB4C:      4230      0      0      0 61A3BB34      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 FFFFFFF FFFFFFF      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
Wakeuperasons 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 6027EEE0
61504F70:      8 6176AFC0      8 6176AFC0      8 6027EEE0      8 614F0630
61504F90:      8 614F0630      8 6027EEE0      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 7CDEBE8E      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
6121FFE0:      0      0      0      0      0      0      0      0
61220000:      0      0      0      0      0      0      0      0
61220020:      0      0      0      0      0      0      0      0
61220040:      0      0      0      0      0      0      0      0
61220060:      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
66682044:      0      0      0      0      0      0      0      0
66682064:      0      0      0      0      0      0      0      0
66682084:      0      0      0      0      0      0      0      0
666820A4:      0      0      0      0      0      0      0      0
666820C4:      0      0      0      0      0      0      0      0
666820E4:      0      0      0      0      0      0      0      0
66682104:      0      0      0      0      0      0      0      0
66682124:      0      0      0      0      0      0      0      0
66682144:      0      0      0      0      0      0      0      0

```

```
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```

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