



Hardware Redundancy and Node Administration Debug Commands on Cisco IOS XR Software

This chapter describes the administrative platform commands used to debug the hardware redundancy, power, and administrative status of the nodes on a router running Cisco IOS XR software.

debug oird

To debug events related to the OIR daemon (OIRD), use the **debug oird** command in EXEC mode. To disable debugging, use the **no** form of this command.

debug oird {all | event | message}

no debug oird {all | event | message}

Syntax Description		
	all	Specifies the debug information for both the event and message keywords.
	event	Specifies the debug information for OIRD event interrupts.
	message	Specifies the debug information for OIR event triggered messages.

Defaults No default behavior or values

Command Modes EXEC

Command History	Release	Modification
	Release 2.0	This command was introduced on the Cisco CRS-1.
	Release 3.0	No modification.
	Release 3.2	No modification.
	Release 3.3.0	No modification.

Usage Guidelines To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

Debugging output is assigned high priority in the CPU process and, therefore, can affect system performance. For more information about the impact on system performance when using debug commands, refer to Using Debug Commands on Cisco IOS XR Software.

- A message may consistently appear on the console log. You must have specific hardware knowledge of the Cisco CRS-1 to interpret the debug information.

Task ID	Task ID	Operations
	system	read

Examples The following example shows sample output with the **debug oird** command:

```
RP/0/RP0/CPU0:router# debug oird all
```

```
RP/0/RP0/CPU0:router# oir_daemon[247]: Card Mask = 40000000000000, Card_present =
ffffdc000fffffbfd, Card_intr = fbffffdfffffff.
RP/0/RP0/CPU0:router# oir_daemon[247]: %OIRD-5-OIROUT : OIR: Node 0/10/SP removed
RP/0/RP0/CPU0:router# oir_daemon[247]: Card Mask = 40000000000000, Card_present =
ffffdc000fffffbfd, Card_intr = fbffffdfffffff.
RP/0/RP0/CPU0:router# oir_daemon[247]: %OIRD-5-OIRIN : OIR: Node 0/10/SP inserted
RP/0/RP0/CPU0:router# oir_daemon[247]: Card Mask = 40000000000000, Card_present =
ffffdc000fffffbfd, Card_intr = fbffffdfffffff.
RP/0/RP0/CPU0:router# oir_daemon[247]: %OIRD-5-OIROUT : OIR: Node 0/10/SP removed
RP/0/RP0/CPU0:router# oir_daemon[247]: Card Mask = 40000000000000, Card_present =
ffffdc000fffffbfd, Card_intr = fbffffdfffffff.
RP/0/RP0/CPU0:router# oir_daemon[247]: %OIRD-5-OIRIN : OIR: Node 0/10/SP inserted
```

debug screddrv

To debug the screddrv message, use the **debug screddrv** command in EXEC mode. To disable debugging, use the **no** form of this command.

```
debug screddrv {all | lwm | message | state}
```

```
no debug screddrv {all | lwm | message | state}
```

Syntax Description

all	(Optional) Enables debug for lwm , message , and state keywords.
lwm	(Optional) Specifies debug information for lwm ¹ keyword.
message	(Optional) Enables debug for all message exchanges.
state	(Optional) Enables debug for redundancy driver mastership state information.

1. LWM = light weight message

Defaults

The **debug screddrv** command is off by default.

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	No modification.
Release 3.3.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

- Debugging output is assigned high priority in the CPU process and, therefore, can affect system performance. For more information about the impact on system performance when using debug commands, refer to Using Debug Commands on Cisco IOS XR Software.

Task ID

Task ID	Operations
system	read

Examples

The following example shows how to enable debugging information with the **debug screddrv** command:

```
RP/0/RP0/CPU0:router# debug screddrv state
RP/0/RP0/CPU0:router#
```


debug socket

To debug the socket library, use the **debug socket** command in EXEC mode. To disable debugging, use the **no** form of this command.

```
debug socket {clns | raw | tcp | udp} {api | error | events | io} [location node-id]
```

```
no debug socket {clns | raw | tcp | udp} {api | error | events | io} [location node-id]
```

Syntax Description

clns	Enables the clns socket debug from the socket layer.
raw	Enables the raw socket debug from the socket layer.
tcp	Enables the tcp socket debug from the socket layer.
udp	Enables the User Datagram Protocol (UDP) socket debug from the socket layer.
api	Enables the socket debug for internal application programming interfaces (APIs).
error	Enables the socket debug for errors.
events	Enables the socket debug for events.
io	Enables the socket debug for the input/output (I/O) path.
location node-id	(Optional) Specifies debug information to enable a specified location (for example, 0/2/CPU0). The <i>node-id</i> argument is entered in the <i>rack/slot/module</i> notation.

Defaults

The **debug socket** command is off by default.

Command Modes

EXEC

Command History

Release	Modification
Release 2.0	This command was introduced on the Cisco CRS-1.
Release 3.0	No modification.
Release 3.2	This command was supported on the Cisco XR 12000 Series Router.
Release 3.3.0	No modification.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes the proper task IDs. For detailed information about user groups and task IDs, see the *Configuring AAA Services on Cisco IOS XR Software* module of the *Cisco IOS XR System Security Configuration Guide*.

- Debugging output is assigned high priority in the CPU process and, therefore, can affect system performance. For more information about the impact on system performance when using debug commands, refer to Using Debug Commands on Cisco IOS XR Software.

Task ID

Task ID	Operations
transport	read

Examples

The following example shows sample output with the **debug socket** command:

```
RP/0/RP0/CPU0:router# debug socket udp api location 0/0/CPU0

RP/0/RP0/CPU0:Aug 16 20:58:33.983 : udp[316]: Entering: io_open
RP/0/RP0/CPU0:Aug 16 20:58:33.986 : udp[316]: Entering: io_open_create
RP/0/RP0/CPU0:Aug 16 20:58:33.986 : udp[316]: Entering: screate (domain 2, type 2, proto
0, app_jid 0, xipcq_number 0
RP/0/RP0/CPU0:Aug 16 20:58:33.986 : udp[316]: Entering: socket_create
RP/0/RP0/CPU0:Aug 16 20:58:33.986 : udp[316]: Entering: socket_create_mutex (so 0x8067370,
protocol: 0)
RP/0/RP0/CPU0:Aug 16 20:58:33.987 : udp[316]: Entering: solock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:33.987 : udp[316]: Entering: sockbuf_packet_init
RP/0/RP0/CPU0:Aug 16 20:58:33.987 : udp[316]: Entering: sockbuf_packet_init
RP/0/RP0/CPU0:Aug 16 20:58:33.987 : udp[316]: Entering: sbe_reserve_packet (maxpak 50)
RP/0/RP0/CPU0:Aug 16 20:58:33.988 : udp[316]: Entering: sounlock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:33.989 : udp[316]: io_devctl: io_devctl context 8065c50 msg
805d89c ocb 8067370 coid 16
RP/0/RP0/CPU0:Aug 16 20:58:33.989 : udp[316]: Entering: solock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:33.989 : udp[316]: io_devctl: udp -- DCMD_ACME_SOCKET_SEND
RP/0/RP0/CPU0:Aug 16 20:58:33.990 : udp[316]: Entering: sosend (so 0x8067370, datalen 40)
RP/0/RP0/CPU0:Aug 16 20:58:33.990 : udp[316]: Entering: sbe_uiomove_packet (elem
0xda3181ff, uio_elem_offset 0, uio_datalen 40)
RP/0/RP0/CPU0:Aug 16 20:58:33.990 : udp[316]: Entering: sbe_num_iov_packet (offset 0, len
40)
RP/0/RP0/CPU0:Aug 16 20:58:33.991 : udp[316]: Entering: sbe_set_iov_packet (pak
0xda3181ff, offset 0, len 40, numiovs 1
RP/0/RP0/CPU0:Aug 16 20:58:34.009 : udp[316]: Entering: sounlock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.010 : udp[316]: Entering: io_notify (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.010 : udp[316]: Entering: solock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.011 : udp[316]: Entering: sounlock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.035 : udp[316]: Entering: sbe_set_name_packet (elem
0xda3181ff, name 0x8057174, len 16)
RP/0/RP0/CPU0:Aug 16 20:58:34.038 : udp[316]: Entering: sbappendaddr_packet (pak
0xda3181ff)
RP/0/RP0/CPU0:Aug 16 20:58:34.040 : udp[316]: Entering: sbe_set_control_fsv (pak
0xda3181ff, control_data 0x7de7c68)
RP/0/RP0/CPU0:Aug 16 20:58:34.041 : udp[316]: Entering: sbe_size_packet (pak 0xda3181ff)
RP/0/RP0/CPU0:Aug 16 20:58:34.042 : udp[316]: io_devctl: io_devctl context 8065c50 msg
805e0c4 ocb 8067370 coid 16
RP/0/RP0/CPU0:Aug 16 20:58:34.042 : udp[316]: Entering: solock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.042 : udp[316]: Entering: socket_read_wakeup (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.043 : udp[316]: io_devctl: udp -- DCMD_ACME_SOCKET_RECEIVE
RP/0/RP0/CPU0:Aug 16 20:58:34.043 : udp[316]: Entering: soreceive (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.043 : udp[316]: Entering: sbe_get_control_fsv (pak
0xda3181ff, control_data 0x7dc6c00)
RP/0/RP0/CPU0:Aug 16 20:58:34.044 : udp[316]: Entering: sbe_get_control_fsv (pak
0xda3181ff, control_data 0x7dc6c00)

Type escape sequence to abort.
Tracing the route to 171.71.136.54
RP/0/RP0/CPU0:Aug 16 20:58:34.044 : udp[316]: Entering: sbe_size_packet (pak 0xda3181ff)

RP/0/RP0/CPU0:Aug 16 20:58:34.044 : udp[316]: Entering: sbe_uiomove_packet (elem
0xda3181ff, uio_elem_offset 0, uio_datalen 100)
RP/0/RP0/CPU0:Aug 16 20:58:34.044 : udp[316]: Entering: sbe_num_iov_packet (offset 0, len
100)
RP/0/RP0/CPU0:Aug 16 20:58:34.045 : udp[316]: Entering: sbe_set_iov_packet (pak
0xda3181ff, offset 0, len 100, numiovs 1
```

```

1 15lab-vlan526-hsrp.cisco.com (172.19.72.129) 15 msec RP/0/RP0/CPU0:Aug 16 20:58:34.045
: udp[316]: Entering: sbe_size_packet (pak 0xda3181ff)
RP/0/RP0/CPU0:Aug 16 20:58:34.045 : udp[316]: Entering: sbe_get_name_packet (pak
0xda3181ff)
10 msec RP/0/RP0/CPU0:Aug 16 20:58:34.046 : udp[316]: Entering: sbe_get_control_fsm (pak
0xda3181ff, control_data 0x7dc6bb0)
RP/0/RP0/CPU0:Aug 16 20:58:34.046 : udp[316]: Entering: sounlock (so 0x8067370)
10 msec
RP/0/RP0/CPU0:Aug 16 20:58:34.047 : udp[316]: Entering: io_close_ock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.049 : udp[316]: Entering: solock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.070 : udp[316]: Entering: soclose (so 0x8067370, finish 0)
2 sjc15-00lab-gw1.cisco.com (172.24.114.33) 10 msec RP/0/RP0/CPU0:Aug 16 20:58:34.071 :
udp[316]: Entering: socantrcvmore (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.072 : udp[316]: Entering: socket_read_wakeup (so 0x8067370)
10 msec RP/0/RP0/CPU0:Aug 16 20:58:34.073 : udp[316]: Entering: sbflush_packet
RP/0/RP0/CPU0:Aug 16 20:58:34.156 : udp[316]: Entering: sofrees (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.156 : udp[316]: Entering: sounlock (so 0x8067370)
10 msec
RP/0/RP0/CPU0:Aug 16 20:58:34.157 : udp[316]: Entering: sofrees (so 0x8067370)
3 sjc5-lab4-gw1.cisco.com (172.24.114.89) 3 msec RP/0/RP0/CPU0:Aug 16 20:58:34.157 :
udp[316]: Entering: sbflush_packet
RP/0/RP0/CPU0:Aug 16 20:58:34.157 : udp[316]: Entering: socantrcvmore (so 0x8067370)
11 msec RP/0/RP0/CPU0:Aug 16 20:58:34.157 : udp[316]: Entering: socket_read_wakeup (so
0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.158 : udp[316]: Entering: sbflush_packet
9 msec
RP/0/RP0/CPU0:Aug 16 20:58:34.158 : udp[316]: Entering: socket_destroy (so 0x8067370)
4 sjc5-sbb4-gw1.cisco.com (171.71.241.162) 5 msec RP/0/RP0/CPU0:Aug 16 20:58:34.158 :
udp[316]: Entering: sounlock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.159 : udp[316]: Entering: socket_destroy_mutex (tinfo
0x8039360, mutex 0x804bf70)
11 msec RP/0/RP0/CPU0:Aug 16 20:58:34.492 : udp[316]: Entering: io_open
15 msec RP/0/RP0/CPU0:Aug 16 20:58:34.493 : udp[316]: Entering: io_open_create

RP/0/RP0/CPU0:Aug 16 20:58:34.493 : udp[316]: Entering: socreate (domain 2, type 2, proto
0, app_jid 0, xipcq_number 0)
5 sjc17-dtc-gw2.cisco.com (171.71.241.81) 11 msec RP/0/RP0/CPU0:Aug 16 20:58:34.494 :
udp[316]: Entering: socket_create
RP/0/RP0/CPU0:Aug 16 20:58:34.494 : udp[316]: Entering: socket_create_mutex (so 0x8067370,
protocol: 0)
10 msec RP/0/RP0/CPU0:Aug 16 20:58:34.494 : udp[316]: Entering: solock (so 0x8067370)
5 msec
RP/0/RP0/CPU0:Aug 16 20:58:34.495 : udp[316]: Entering: sockbuf_packet_init
RP/0/RP0/CPU0:Aug 16 20:58:34.495 : udp[316]: Entering: sockbuf_packet_init
RP/0/RP0/CPU0:Aug 16 20:58:34.496 : udp[316]: Entering: sbe_reserve_packet (maxpak 50)
6 sjc15-00-gw2.cisco.com (171.71.240.182) 9 msec RP/0/RP0/CPU0:Aug 16 20:58:34.496 :
udp[316]: Entering: sounlock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.497 : udp[316]: io_devctl: io_devctl context 8065c50 msg
805e0c4 ocb 8067370 coid 16
11 msec RP/0/RP0/CPU0:Aug 16 20:58:34.498 : udp[316]: Entering: solock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.498 : udp[316]: io_devctl: udp -- DCMD_ACME_SOCKET_SEND
10 msec
RP/0/RP0/CPU0:Aug 16 20:58:34.498 : udp[316]: Entering: sosend (so 0x8067370, datalen 40)
7 rajkotia-u10.cisco.com (171.71.136.54) 8 msec RP/0/RP0/CPU0:Aug 16 20:58:34.499 :
udp[316]: Entering: sbe_uiomove_packet (elem 0xda3181ff, uio_elem_offset 0, uio_datalen
40)
RP/0/RP0/CPU0:Aug 16 20:58:34.500 : udp[316]: Entering: sbe_num_iov_packet (offset 0, len
40)
RP/0/RP0/CPU0:Aug 16 20:58:34.500 : udp[316]: Entering: sbe_set_iov_packet (pak
0xda3181ff, offset 0, len 40, numiovs 1)
RP/0/RP0/CPU0:Aug 16 20:58:34.504 : udp[316]: Entering: sounlock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.505 : udp[316]: Entering: io_notify (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.506 : udp[316]: Entering: solock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.507 : udp[316]: Entering: sounlock (so 0x8067370)

```



```
RP/0/RP0/CPU0:Aug 16 20:58:34.509 : udp[316]: Entering: sbe_set_name_packet (elem
0xda3181ff, name 0x8057190, len 16)
RP/0/RP0/CPU0:Aug 16 20:58:34.510 : udp[316]: Entering: sbappendaddr_packet (pak
0xda3181ff)
RP/0/RP0/CPU0:Aug 16 20:58:34.511 : udp[316]: Entering: sbe_set_control_fsv (pak
0xda3181ff, control_data 0x7dc6c68)
RP/0/RP0/CPU0:Aug 16 20:58:34.511 : udp[316]: Entering: sbe_size_packet (pak 0xda3181ff)
RP/0/RP0/CPU0:Aug 16 20:58:34.511 : udp[316]: Entering: socket_read_wakeup (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.512 : udp[316]: io_devctl: io_devctl context 8065c50 msg
805d89c ocb 8067370 coid 16
RP/0/RP0/CPU0:Aug 16 20:58:34.513 : udp[316]: Entering: solock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.513 : udp[316]: io_devctl: udp -- DCMD_ACME_SOCKET_RECEIVE
RP/0/RP0/CPU0:Aug 16 20:58:34.514 : udp[316]: Entering: soreceive (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.514 : udp[316]: Entering: sbe_get_control_fsv (pak
0xda3181ff, control_data 0x7de7c00)
RP/0/RP0/CPU0:Aug 16 20:58:34.515 : udp[316]: Entering: sbe_get_control_fsv (pak
0xda3181ff, control_data 0x7de7c00)
RP/0/RP0/CPU0:Aug 16 20:58:34.515 : udp[316]: Entering: sbe_size_packet (pak 0xda3181ff)
RP/0/RP0/CPU0:Aug 16 20:58:34.515 : udp[316]: Entering: sbe_uiomove_packet (elem
0xda3181ff, uio_elem_offset 0, uio_datalen 124)
RP/0/RP0/CPU0:Aug 16 20:58:34.516 : udp[316]: Entering: sbe_num_iov_packet (offset 0, len
124)
RP/0/RP0/CPU0:Aug 16 20:58:34.516 : udp[316]: Entering: sbe_set_iov_packet (pak
0xda3181ff, offset 0, len 124, numiovs 1)
RP/0/RP0/CPU0:Aug 16 20:58:34.517 : udp[316]: Entering: sbe_size_packet (pak 0xda3181ff)
RP/0/RP0/CPU0:Aug 16 20:58:34.518 : udp[316]: Entering: sbe_get_name_packet (pak
0xda3181ff)
RP/0/RP0/CPU0:Aug 16 20:58:34.518 : udp[316]: Entering: sbe_get_control_fsv (pak
0xda3181ff, control_data 0x7de7bb0)
RP/0/RP0/CPU0:Aug 16 20:58:34.520 : udp[316]: Entering: sounlock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.520 : udp[316]: Entering: io_close_ocr (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.523 : udp[316]: Entering: solock (so 0x8067370)
* RP/0/RP0/CPU0:Aug 16 20:58:34.525 : udp[316]: Entering: soclose (so 0x8067370, finish
0)
RP/0/RP0/CPU0:Aug 16 20:58:34.526 : udp[316]: Entering: socantrcvmore (so 0x8067370)
11 msec
RP/0/RP0/CPU0:Aug 16 20:58:34.526 : udp[316]: Entering: socket_read_wakeup (so 0x8067370)
RP/0/RP0/CPU0:router# RP/0/RP0/CPU0:Aug 16 20:58:34.527 : udp[316]: Entering:
sbflush_packet
RP/0/RP0/CPU0:Aug 16 20:58:34.534 : udp[316]: Entering: sofree (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.540 : udp[316]: Entering: sounlock (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.542 : udp[316]: Entering: sofree (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.544 : udp[316]: Entering: sbflush_packet
RP/0/RP0/CPU0:Aug 16 20:58:34.547 : udp[316]: Entering: socantrcvmore (so 0x8067370)
RP/0/RP0/CPU0:Aug 16 20:58:34.549 : udp[316]: Entering: socket_read_wakeup (so 0x8067370)
```

■ debug socket