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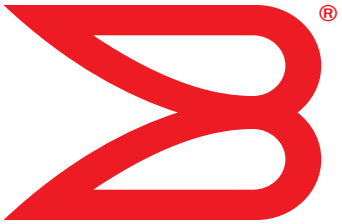

Brocade FastIron, FCX, ICX, and TurboIron Diagnostic Reference

Supporting Brocade FastIron and TurboIron R07.4.00

BROCADE

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Document History

Title	Publication number	Summary of changes	Date
Brocade FCX and Brocade ICX 6610 Debug Guide	53-1002392-01	New document	October 2011
Brocade FastIron, FCX, ICX, and TurboIron Diagnostic Reference	53-1002497-01	Updated to include the release-specific debug commands and supportsave information.	March 2012

Contents

About This Document

In this chapter

Supported hardware and software

This guide describes the FastIron 07.4.00 release.

The following hardware platforms are supported by the release of this guide:

- Brocade FCX
- Brocade FastIron SX
- Brocade ICX 6430
- Brocade ICX 6450
- Brocade ICX 6610
- Brocade TurboIron

NOTE
Some debug commands report information about internal hardware settings and registers that is relevant primarily to the Brocade engineering staff. Consequently, this information is not described in this document.

Disclaimer

This manual is provided without any warranty of any kind, expressed or implied. When using this manual to troubleshoot Brocade products, you assume all risk as to the quality and performance of the debug procedures. Brocade assumes no liability for any damages, including general, special, incidental, or consequential damages arising from the use of the procedures in this manual (including, but not limited to any loss of profit or savings, loss of data, or failure to successfully troubleshoot network problems).

Debug information may be changed or updated without notice. You are responsible for obtaining newer versions of this manual when they are made available. The procedures in this document are not intended as a substitute for the expertise of qualified technicians.

Enabling debug commands can seriously degrade system performance. Debug commands are generally intended for use when troubleshooting specific problems while working with qualified service technicians, or in conjunction with calls to Brocade Technical Support. Whenever possible, troubleshoot your system during periods of low network traffic and user activity to preserve system performance.

If you have any questions regarding this disclaimer please contact us at *http://www.brocade.com/products/all/routers/index.page.*

Document conventions

This section describes text formatting conventions and important notice formats used in this document.

Text formatting

The narrative-text formatting conventions that are used are as follows:

bold text	Identifies command names
	Identifies the names of user-manipulated GUI elements
	Identifies keywords
	Identifies text to enter at the GUI or CLI
italic text	Provides emphasis
	Identifies variables
	Identifies document titles
`code` text	Identifies CLI output

For readability, command names in the narrative portions of this guide are presented in mixed lettercase: for example, **switchShow**. In actual examples, command lettercase is all lowercase.

Notes and caution notices

The following notices and statements are used in this manual. They are listed below in order of increasing severity of potential hazards.

NOTE
A note provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

ATTENTION
An Attention statement indicates potential damage to hardware or data.

CAUTION

A Caution statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.

Related publications

The following Brocade documents supplement the information in this guide:

- The *FastIron Configuration Guide* describes how to configure the Brocade FastIron device features, primarily using the CLI.
- The *TurboIron 24X Series Configuration Guide* describes how to configure the Brocade TurboIron device features, primarily using the CLI.
- The *Brocade FCX Series Hardware Installation Guide* describes the hardware features of the Brocade FCX switches and provides information on how to install the Brocade FCX switch.
- The *Brocade FastIron ICX 6610 Stackable Switch Hardware Installation Guide* describes the hardware features of the Brocade ICX 6610 switch and provides information on how to install the switch.
- The *Brocade ICX 6450, ICX 6430 Switch Hardware Installation Guide* describes the hardware features of the Brocade ICX 6450 and Brocade ICX 6430 switches and provides information on how to install the switches.
- The *Brocade TurboIron 24X Hardware Installation Guide* describes the hardware features of Brocade TurboIron 24X switches and provides information to install the devices.
- The *Unified IP MIB Reference* describes the Simple Network Management Protocol (SNMP) Information Base (MIB) objects that are supported in Brocade devices.

The latest version of these guides are posted at *http://www.brocade.com/ethernetproducts*.

Getting technical help

To contact Technical Support, go to *http://www.brocade.com/services-support/index.page* for the latest e-mail and telephone contact information.

Document feedback

Quality is our first concern at Brocade and we have made every effort to ensure the accuracy and completeness of this document. However, if you find an error or an omission, or you think that a topic needs further development, we want to hear from you. Forward your feedback to:

documentation@brocade.com

Provide the title and version number of the document and as much detail as possible about your comment, including the topic heading and page number and your suggestions for improvement.

Chapter

1 Using Diagnostic Commands

In this chapter

Using debug commands

This section describes how to use debug commands to monitor and troubleshoot Brocade FCX, Brocade ICX, and Brocade TurboIron switch configurations. The debug commands are accessible from the Privileged EXEC mode in the Multi-Service IronWare command line interface (CLI). Most of the debug commands can be configured to send output to a specified destination.

When enabled, the debug commands can noticeably affect system performance. Many debug commands are specifically designed to be used in conjunction with calls to Brocade technical support. If you report a problem, the support engineer may ask you to execute one or more of the debug commands described in this guide.

ATTENTION
Some debug commands report information about internal hardware settings and registers, which is relevant primarily to the Brocade engineering staff. These commands are not described in this document.

Brief and detail debug options

When enabled, many debug commands can significantly impact system performance. Many debug commands provide options for brief or detailed reporting. Generating detailed output places an additional burden on system performance, and in many cases the results may be more difficult to interpret than output generated using the **brief** option. To conserve performance and prevent system disruption, use the **brief** option whenever possible.

Generic debug commands

The following generic debug commands perform functions related to all debugging actions:

- **debug ?**—Generates a list of debug options.
- [**no**] **debug all**—Enables or disables all debug functions.
- **show debug**—Shows all enabled debug settings.
- **debug destination**—Allows you to select an output destination; Telnet, SSH, console, or logging (default).

debug ?

Syntax: debug ?

This command generates a list of available debug variables.

ATTENTION
Many first-level variables have their own variable subsets. When you enter a debug command, the system indicates that there are additional variables available and you have entered an incomplete command. Add a space and a question mark to your original command to view the additional variables.

```
Brocade# debug ip
Incomplete command
Brocade# debug ip ?
  arp             ARP messages
  dhcp_snooping   DHCP snooping
  icmp            ICMP transactions
  igmp            IGMP protocol activity
  pim             PIM/dvmrp protocol activity
  source_guard    Source Guard
  ssh             SSH information
  tcp             TCP information
  udp             UDP based transactionstp
  web             WEB HTTP/HTTPS information
```

debug all

Syntax: [no] debug all

This command enables all the debug functions, and should be used *only* during a troubleshooting session with a Brocade technician.

```
Brocade# debug all
Warning! This may severely impact network performance!
All possible debuggings have been turned on
```

Enter the **no** command to cancel the setting.

```
Brocade# no debug all
Debug message destination:  default (console)
All possible debuggings have been turned off
tracking is off and all results are cleared
Disabling ACL log
Don't monitor port
```

CAUTION
The debug all command generates extensive output and can significantly slow device operation. Use this command with caution. Never use this command during periods of peak network activity. Enter no debug all to stop the output.

debug destination

Syntax: [no] debug destination [console | logging | telnet <*num*> **| ssh** <*num*> **]**

- **console**—Directs output to the system console.

- **logging**—Directs output to the syslog buffer and to the syslog server (default).
- **telnet** <*num*>—Directs output to a specified Telnet session (ranges from 1 through 5).
- **ssh** <*num*>—Directs output to a specified Secure Shell (SSH) session (ranges from 1 through 5).

This command allows you to specify a destination for debugging output. The default destination is the system console, but you can redirect output to a syslog buffer, Telnet session, or SSH session.

To send debug output to a Telnet session, first determine your session number using the **show who** command.

```
Brocade# show who
Console connections (by unit number):
 1      established
        4 minutes 29 seconds in idle
Telnet connections (inbound):
 1      established, client ip address 172.31.0.1
        you are connecting to this session
        2 seconds in idle
 2      closed
 3      closed
 4      closed
 5      closed
Telnet connection (outbound):
 6      closed
SSH connections:
 1      closed
 2      closed
 3      closed
 4      closed
```

This example indicates that you are connected through active Telnet session 1. To redirect the debug output to your Telnet session, enter the following command.

```
Brocade# debug destination telnet 1
```

show debug

Syntax: show debug

This command displays all the enabled debug functions. The output resembles the following example, which shows that ACL log and IPv6 debugging are enabled, with the console as the output destination.

```
Brocade# show debug
Debug message destination:  Console
Enabling ACL log
IPv6 Routing:
ipv6:  icmp debugging is on
```

Disabling debug commands

When activated, most debug commands instruct the system to collect specific information about router configurations and activity. In all cases, adding **no** in front of the command disables the debug function.

Chapter

System Level and Layer 1 Debug Commands 2

In this chapter

Layer 1 debug commands

The following commands deal with the Layer 1 debugging for the Brocade FCX platforms. In general, Layer 1 issues are related to hardware, the most common being physical connectivity problems.

Hardware backplane debug command

The following command enables the hardware backplane debugging feature in a device.

debug hw

Syntax: [no] **debug hw**

This command enables the hardware backplane debugging feature. To disable this feature, enter the **no** form of the command.

```
Brocade# debug hw
HW BP:  backplane debugging is on
```

Loop detect debug commands

Brocade Port Loop Detection (PLD) protocol allows the Brocade devices to detect loops and disable a port that is on the receiving end of a loop. The loop is detected by sending Bridge Packet Data Unit (BPDU) test packets.

debug loop-detect

Syntax: [no] **debug loop-detect**

This command initiates debugging the loop detection.

NOTE
Execute the command prior to configuring the modes. For more information on strict mode, loose mode, and configuration of loop detection, refer to the *FastIron Configuration Guide.*

Execute the following command to configure loop detection of a single port in strict mode.

```
Brocade# debug loop-detect
```

```
Configure loop-detection strict mode on port 1/1/25 :
Brocade(config-if-e1000-1/1/25)# loop-detection
```

When there is loop detection activity in the switch, the debug information regarding loop detection is displayed on the console. The following example shows the output for the **debug loop-detect** command when the port goes into a disabled state because of loop detection (strict mode).

```
insert_disable primary 1/1/25, vlan=4096
Loop-detection: port 1/1/25 (vlan=1), put into errdisable state
```

Execute the following command to configure loop detection in a VLAN in loose mode.

```
Configure loop-detection loose mode on port vlan 2 :
Brocade(config-vlan-2)# loop-detection
Brocade(config-vlan-2)# insert_disable primary 1/1/31, vlan=2
```

The following output is displayed after the configuration.

```
Loop-detection: port 1/1/31 (vlan=2), put into errdisable state
insert_disable primary 1/1/32, vlan=2
Loop-detection: port 1/1/32 (vlan=2), put into errdisable state
```

Port debug commands

The following commands deal with the debugging of port activity.

debug port hw-state

Syntax: [no] **debug port hw-state**

This command monitors the hardware status of a port. This helps to enable or disable port debugging in the hardware state.

```
Brocade# debug port hw-state
Topology:     Port 1/1/31 is connected to port 1/1/32.
```

If port 1/1/31 is disabled, an output similar to the following is displayed.

```
Brocade(config)# interface ethernet 1/1/31
Brocade(config-if-e1000-1/1/31)# disable  ( when port is disabled)
Change port 1/1/31 hw_state from PORT_READY(7) to DISABLED(0)
stack: 4040 2050A970 2050AA44 2060D498 20608BF8 2060B5A4 20576A90 20576C74
2057707C 202A50A8 20491E9C 20492DC0 204906D8 2050BF48 204A03C8 204A0418 2011BBC8
20047698 2011CF7C 5008
Brocade(config-if-e1000-1/1/31)# Change port 1/1/32 hw_state from PORT_READY(7)
to SEEQ_INIT(1)
stack: 4040 2050A970 2050AA44 2060D498 20608E18 20609344 20609AFC 2055FA50
2050A214 200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
```

If port 1/1/31 is enabled, an output similar to the following is displayed.

```
Brocade(config-if-e1000-1/1/32)# interface ethernet 1/1/31
Brocade(config-if-e1000-1/1/31)# enable
Change port 1/1/31 hw_state from DISABLED(0) to SEEQ_INIT(1)
stack: 4040 2050A970 2050AA44 2060D498 20608A34 2060B598 20576BC4 20576C74
2057707C 202A4F84 20491E9C 20492DC0 204906D8 2050BF48 204A03C8 204A0418 2011BBC8
20047698 2011CF7C 5008
Brocade(config-if-e1000-1/1/31)# Change port 1/1/31 hw_state from SEEQ_INIT(1) to
PORT_READY(7)
```

```
stack: 4040 2050A970 2050AA44 2060D498 206093D0 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
Change port 1/1/32 hw_state from SEEQ_INIT(1) to PORT_READY(7)
stack: 4040 2050A970 2050AA44 2060D498 206093D0 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
```

debug port port

Syntax: [**no**] **debug port port** <*stackid/slot/port*>

This command monitors a specific physical port and is used with the **debug port up-down** or **debug port hw-state** commands. The <*stackid/slot/port*> variable refers to the stack ID, slot number, and port number.

```
Brocade# debug port port 1/1/2
Topology:  Port 1/1/31 is connected to port 1/1/2.
```

When the **debug port hw-state** command is enabled after the **debug port port** command, the output similar to the following example is displayed.

```
Brocade# debug port port 1/1/2
monitor port 1/1/2
Brocade# debug port hw-state
```

If port 1/1/2 is disabled, an output similar to the following is displayed.

```
Brocade(config-if-e1000-1/1/2)# disable
port_disable_cmd: for port 0x1 1/1/2
U1, hal_pp_link_port_enable(1/1/2, 0), is_stby=0, to_shadow=0, parsed = 3,
stack=1
stack: 0116c83c 000de8f0 00accc3c 00acd6ac 00ad21f4 0136c614 0136c850 0136cf00
012b842c 0084b3b0 0084e0a0 00847608 00966c0c 0086c110 0086c154 00243f98 000f0524
00246f54 0159f920 017713c4
pp_link_port_en_dis(port=1/1/2, 0), return 0
stack: 0116ca20 000de8f0 00accc3c 00acd6ac 00ad21f4 0136c614 0136c850 0136cf00
012b842c 0084b3b0 0084e0a0 00847608 00966c0c 0086c110 0086c154 00243f98 000f0524
00246f54 0159f920 017713c4
Change 1/1/2 state from Forward to Disable
stack: 00acb98c 00ad1e14 00aebd74 0071dddc 0071ebbc 00af0e8c 00af18e8 00ad0e20
00acccf4 00acd6ac 00ad21f4 0136c614 0136c850 0136cf00 012b842c 0084b3b0 0084e0a0
00847608 00966c0c 0086c110 0086c154 00243f98 000f0524 00246f54 0159f920 017713c4
Change port 1/1/2 hw_state from PORT_READY(7) to DISABLED(0)
stack: 00ad5d4c 00accd2c 00acd6ac 00ad21f4 0136c614 0136c850 0136cf00 012b842c
0084b3b0 0084e0a0 00847608 00966c0c 0086c110 0086c154 00243f98 000f0524 00246f54
0159f920 017713c4
Change 1/1/2 state from Disable to Blocked
stack: 00acb98c 00acba3c 00acbce4 00accd38 00acd6ac 00ad21f4 0136c614 0136c850
0136cf00 012b842c 0084b3b0 0084e0a0 00847608 00966c0c 0086c110 0086c154 00243f98
000f0524 00246f54 0159f920 017713c4
Change 1/1/2 state from Blocked to Disable
stack: 00acb98c 00acba3c 00accd48 00acd6ac 00ad21f4 0136c614 0136c850 0136cf00
012b842c 0084b3b0 0084e0a0 00847608 00966c0c 0086c110 0086c154 00243f98 000f0524
00246f54 0159f920 017713c4
```

If port 1/1/2 is enabled, an output similar to the following is displayed.

```
Brocade(config-if-e1000-1/1/2)# enable
Brocade(config-if-e1000-1/1/2)# Change port 1/1/2 hw_state from SEEQ_INIT(1) to
PORT_READY(7)
stack: 4040 2050A970 2050AA44 2060D498 206093D0 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
```

```
Change 1/1/2 state from Disable to Blocked
stack: 4040 2050A970 2050AA44 206082E0 2060B354 206215F8 203F9F10 203FB4D8
203FA2B4 2062268C 20623404 2060A624 20609520 20609AFC 2055FA50 2050A214 200478DC
2011BBCC 20047698 2011CF7C
Change 1/1/2 state from Blocked to Listen
stack: 4040 2050A970 2050AA44 206082E0 2060B354 20621734 203F9F10 203FD490
203FD1C4 203FA2BC 2062268C 20623404 2060A624 20609520 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698
Change 1/1/2 state from Listen to Learn
stack: 4040 2050A970 2050AA44 206082E0 2060B354 2062178C 203F9F10 20400F38
20400C84 20400A1C 203F9980 2050A214 200478DC 2011BBCC 20047698 2011CF7C 5008 135C8
18524
Change 1/1/2 state from Learn to Blocked
stack: 4040 2050A970 2050AA44 206082E0 2060B354 206215F8 203F9F10 203FD70C
203FD248 203FDFD8 204F3C8C 20616AB8 20612D30 200DC33C 200DC600 200DC6C0 200DC780
200444C4 2011BC28 20047698
```

The **debug port up-down** disables or enables a port to get output information of the specified port. When the **debug port up-down** command is enabled after the **debug port port** command, the output similar to the following example is displayed.

```
Brocade# debug port port 1/1/32
monitor port 1/1/32
Brocade# debug port up-down
```

If port 1/1/32 is disabled, an output similar to the following is displayed.

```
Brocade(config-if-e1000-1/1/32)# disable
port_down_indication. port=1/1/32, UNTAG, vlan-idx=1
stack: 4040 2050A970 2050AA44 2060A8FC 20608BEC 2060B5A4 20576A90 20576C74
2057707C 202A50A8 20491E9C 20492DC0 204906D8 2050BF48 204A03C8 204A0418 2011BBC8
20047698 2011CF7C 5008
Change 1/1/32 state from Blocked to Disable
stack: 4040 2050A970 2050AA44 206082E0 2060B354 206214F0 203F9F10 203FA3A0
20622F60 20623404 2060AA38 20608BEC 2060B5A4 20576A90 20576C74 2057707C 202A50A8
20491E9C 20492DC0 204906D8
Change 1/1/32 state from Disable to Blocked
stack: 4040 2050A970 2050AA44 206082E0 20608330 206084C4 20608C00 2060B5A4
20576A90 20576C74 2057707C 202A50A8 20491E9C 20492DC0 204906D8 2050BF48 204A03C8
204A0418 2011BBC8 20047698
Change 1/1/32 state from Blocked to Disable
stack: 4040 2050A970 2050AA44 206082E0 20608330 20608C0C 2060B5A4 20576A90
20576C74 2057707C 202A50A8 20491E9C 20492DC0 204906D8 2050BF48 204A03C8 204A0418
2011BBC8 20047698 2011CF7C
```

If port 1/1/32 is enabled, an output similar to the following is displayed.

```
Brocade(config-if-e1000-1/1/32)# enable
Change 1/1/32 state from Disable to Blocked
stack: 4040 2050A970 2050AA44 206082E0 206089A0 2060B598 20576BC4 20576C74
2057707C 202A4F84 20491E9C 20492DC0 204906D8 2050BF48 204A03C8 204A0418 2011BBC8
20047698 2011CF7C 5008
FCX648S Switch(config-if-e1000-1/1/32)#pp_link_change_final. port=1/1/32, up=1
port_up_indication. port=1/1/32, UNTAG, vlan-idx=1
stack: 4040 2050A970 2050AA44 2060A2C8 20609520 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
Change 1/1/32 state from Blocked to Listen
stack: 4040 2050A970 2050AA44 206082E0 2060B354 20621734 203F9F10 203FD490
203FD1C4 203FA2BC 2062268C 20623404 2060A624 20609520 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698
Change 1/1/32 state from Listen to Blocked
```

```
stack: 4040 2050A970 2050AA44 206082E0 2060B354 206215F8 203F9F10 203FD70C
203FD248 203FDFD8 204F3C8C 20616AB8 20612D30 200DC33C 200DC600 200DC6C0 200DC780
200444C4 2011BC28 20047698
```

debug port ten-gig

Syntax: [no] **debug port ten-gig**

This command monitors all 10 Gigabit ports in the Brocade FCX device and is used in conjunction with the **debug port hw-state** command.

```
Brocade# debug port ten-gig
Topology:  Port 2/3/1 is the 10 gig port which is Up and forwarding on stack.

Brocade# debug port ten-gig
Brocade# debug port hw-state
  hw-state       monitor hw_state change
Brocade# debug port hw-state
```

If port 1/1/32 is disabled, an output similar to the following is displayed.

```
Brocade(config-if-e10000-2/3/1)# disable
Change port 2/3/1 hw_state from PORT_READY(7) to DISABLED(0)
stack: 4040 2050A970 2050AA44 2060D498 20608BF8 2060B5A4 20576A90 20576C74
2057707C 202A50A8 20491E9C 20492DC0 204906D8 2050BF48 2027FD8C 20280888 202809F0
2015FCDC 2015FF44 20160B80
```

If port 1/1/32 is enabled, an output similar to the following is displayed.

```
Brocade(config-if-e10000-2/3/1)# enable
Change port 2/3/1 hw_state from DISABLED(0) to SEEQ_INIT(1)
stack: 4040 2050A970 2050AA44 2060D498 20608A34 2060B598 20576BC4 20576C74
2057707C 202A4F84 20491E9C 20492DC0 204906D8 2050BF48 2027FD8C 20280888 202809F0
2015FCDC 2015FF44 20160B80
Brocade(config-if-e10000-2/3/1)# Change port 2/3/1 hw_state from SEEQ_INIT(1) to
PORT_READY(7)
stack: 4040 2050A970 2050AA44 2060D498 206093D0 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
```

debug port up-down

Syntax: [no] **debug port up-down** <*decimal*>

This command monitors the status of the ports. The port status up, down, and up/down are indicated by 1, 2, and 3 respectively. The <*decimal*> variable refers to the status of the port.

```
Brocade# debug port up-down 1
Monitor port up
Topology:  Port 1/1/31 is connected to port 1/1/32.
```

The **debug port up-down** command disables or enables a port to get output information of the specified port.

If port 1/1/31 is disabled, an output similar to the following is displayed.

```
Brocade(config)# interface ethernet 1/1/31
Brocade(config-if-e1000-1/1/31)# disable
port_down_indication. port=1/1/31, UNTAG, vlan-idx=1
stack: 4040 2050A970 2050AA44 2060A8FC 20608BEC 2060B5A4 20576A90 20576C74
2057707C 202A50A8 20491E9C 20492DC0 204906D8 2050BF48 204A03C8 204A0418 2011BBC8
20047698 2011CF7C 5008
```

```
Brocade(config-if-e1000-1/1/31)# port_down_indication. port=1/1/32, UNTAG,
vlan-idx=3
stack: 4040 2050A970 2050AA44 2060A8FC 20608DA0 20609344 20609AFC 2055FA50
2050A214 200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
pp_link_change_final. port=1/1/32, up=0
```

If port 1/1/31 is enabled, an output similar to the following is displayed.

```
Brocade(config-if-e1000-1/1/31)# enable
Brocade(config-if-e1000-1/1/31)# pp_link_change_final. port=1/1/31, up=1
port_up_indication. port=1/1/31, UNTAG, vlan-idx=1
stack: 4040 2050A970 2050AA44 2060A2C8 20609520 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
pp_link_change_final. port=1/1/32, up=1
port_up_indication. port=1/1/32, UNTAG, vlan-idx=3
stack: 4040 2050A970 2050AA44 2060A2C8 20609520 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
```

debug port vlan

Syntax: [**no**] **debug port vlan** <*decimal*>

This command monitors a specific VLAN and is used with the **debug port up-down** and **debug port** commands. The <*decimal*> variable refers to the number of the VLAN.

```
Brocade# debug port vlan 1
monitor vlan 1

Topology:  Port 1/1/31 is connected to port 1/1/32.

Brocade# debug port vlan 2
monitor vlan 2
Brocade# debug port up-down
  up-down        monitor port up/down event. 1: up, 2: down, 3: up/down

Brocade# debug port up-down 3
Monitor both port up and down
```

If port 1/1/31 is disabled, an output similar to the following is displayed.

```
Brocade(config-if-e1000-1/1/31)# disable
port_down_indication. port=1/1/31, TAG, vlan-idx=4096
stack: 4040 2050A970 2050AA44 2060A8FC 20608BEC 2060B5A4 20576A90 20576C74
2057707C 202A50A8 20491E9C 20492DC0 204906D8 2050BF48 204A03C8 204A0418 2011BBC8
20047698 2011CF7C 5008
Brocade(config-if-e1000-1/1/31)# port_down_indication. port=1/1/32, TAG,
vlan-idx=4096
stack: 4040 2050A970 2050AA44 2060A8FC 20608DA0 20609344 20609AFC 2055FA50
2050A214 200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
pp_link_change_final. port=1/1/32, up=0
```

If port 1/1/31 is enabled, an output similar to the following is displayed.

```
Brocade(config-if-e1000-1/1/31)# enable
Brocade(config-if-e1000-1/1/31)# pp_link_change_final. port=1/1/31, up=1
port_up_indication. port=1/1/31, TAG, vlan-idx=4096
stack: 4040 2050A970 2050AA44 2060A2C8 20609520 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
pp_link_change_final. port=1/1/32, up=1
port_up_indication. port=1/1/32, TAG, vlan-idx=4096
```

```
stack: 4040 2050A970 2050AA44 2060A2C8 20609520 20609AFC 2055FA50 2050A214
200478DC 2011BBCC 20047698 2011CF7C 5008 135C8 18524
```

Stacking debug commands

debug stacking control-stack

Syntax: [no] **debug stacking control-stack** <*decimal*>

This command monitors the debugging of control stacks. The <*decimal*> variable refers to the number of the stack.

```
Brocade# debug stacking control-stack 1
Brocade# write memory

SYSLOG: <14>Jan  1 00:00:00 10.44.22.57 startup-config was changed by  from
console
Brocade# reload
Are you sure? (enter 'y' or 'n'): y
startup_config: jumbo=0, hash_chain=0, per_port_vlan=0, vlan_num=0, tcam_num=0,
bootup_role=0
include myself: jumbo=2, hash_chain=0, per_port_vlan=2, vlan_num=64,
tcam_num=16384
Reload request sent to attached stack member(s)...
Brocade# HalRebooting...
 and reboot
Send a no-stack-port signal to dir 0 2/2/1
Send a no-stack-port signal to dir 1 2/2/2

FCX Boot Code Version 7.0.1  (grz07001)
Enter 'a' to stop at memory test
Enter 'b' to stop at boot monitor
BOOT INFO: load monitor from boot flash, cksum = 227c
BOOT INFO: verify flash files.............
BOOT INFO: debug enabled!!!
BOOT INFO: load image from primary copy...

BOOT INFO: debug enabled!!!
.............
....
Starting Main Task .
Read from stack boot flash:
FCX648S, ID =2, role= active, priority=100, config=1, jumbo=X PPVLAN=X S2M=0
stack p: [0]=2/2/1 [1]=2/2/2 , , hash-chain=X vlan#=X
active-chg=0
create register-cache
..update u2 stack ports none none to 2/2/1 2/2/2
stack unit 2, port change to 2/2/1 2/2/2
update stack-p new_port[0] = 2/2/1, delete one dir
update stack-p new_port[1] = 2/2/2, delete one dir
Pre Parsing Config Data ...

Parsing Config Data ...
update u1 stack ports none none to 1/2/1 1/2/2
stack unit 1, port change to 1/2/1 1/2/2
    do_stacking_add_module_type(0) return OK
    do_stacking_add_module_type(1) return OK
    do_stacking_add_module_type(2) return OK
```

```
update u5 stack ports none none to 5/2/1 5/2/2
stack unit 5, port change to 5/2/1 5/2/2
    do_stacking_add_module_type(16) return OK
    do_stacking_add_module_type(17) return OK
update u1 stack ports 1/2/1 1/2/2 to none 1/2/2
stack unit 1, port change to INVALID 1/2/2
update u5 stack ports 5/2/1 5/2/2 to 5/2/1 none
stack unit 5, port change to 5/2/1 INVALID
refresh all vlan and vidx
Trigger election due to change of enable, t=26521 ms

SYSLOG: <14>Jan  1 00:00:00 10.44.22.57 System: Warm start

SYSLOG: <14>Jan  1 00:00:00 10.44.22.57 DHCPC: protocol disabled
  Copyright (c) 1996-2010 Brocade Communications Systems, Inc.
    UNIT 2: compiled on Apr 27 2010 at 04:58:36 labeled as FCXS07100b93
                (4210939 bytes) from Primary FCXS07100b93.bin
         SW: Version 07.1.00b93T7f1
  Boot-Monitor Image size = 369286, Version:07.0.01T7f5 (grz07001)
  HW: Stackable FCX648S-PREM (PROM-TYPE FCX-ADV-U)
==========================================================================
UNIT 2: SL 1: FCX-48GS 48-port Management Module
         License: BASE_SOFT_PACKAGE   (LID: )
         P-ENGINE  0: type DB90, rev 01
         P-ENGINE  1: type DB90, rev 01
==========================================================================
UNIT 2: SL 2: FCX-2XGC 2-port 16G Module (2-CX4)
==========================================================================
UNIT 2: SL 3: FCX-2XG 2-port 10G Module (2-XFP)
==========================================================================
  800 MHz Power PC processor 8544E (version 33/0022) 400 MHz bus
65536 KB flash memory
  256 MB DRAM
Monitor Option is on
STACKID 2  system uptime is 17 seconds
The system : started=warm start  reloaded=by "reload"
My stack unit ID = 2, bootup role = active

Trigger election due to change of port-up, t=48 ms
Election, was alone --> active, ID=2, total 2 units, priority=100
Change my elected role from alone to active

module 16 is has matched config, add mac address only
module 17 is has matched config, add mac address only
create virtual table for device 8, t=49169ms
allocate virtual reg cache for device 8, t=49171ms
me=00bb.5233.33bb, assigned-ID=2, finished cost calculation
device 2, cost = 0, through conn-port[0], prec device=255
device 3, cost = 0, through conn-port[0], prec device=255
device 8, cost = 10, through conn-port[1], prec device=3
stack unit 5 createPPDevices(8), num=1, remote_state=0, rel-seq#=2DAF0000
Created 1 devs from 8 for unit 5, time=648 us

Trigger election due to change of port-up, t=0 ms
Brocade> Done hot swap: Set stack unit 5 to Ready role active

rated 1: I 2 ipc_send_packet, target stack1, has no DSA tag
stack: 20174928 20178CA8 20179D44 20177424 200E10AC 200E1890 200E193C 200E1A10
20044E1C 2012B5C0 20048000 2012C9D4 5010
  rel_ipc_send_reset fail, to u1, channel=0
```

```
Election, was active, no role change, ID=2, total 3 units, priority=100

SYSLOG: <14>Jan  1 00:00:00 10.44.22.57 Stack: Stack unit 1 has been added to the
stack system
module 0 is has matched config, add mac address only
module 1 is has matched config, add mac address only
module 2 is has matched config, add mac address only
create virtual table for device 0, t=50688ms
create virtual table for device 1, t=50690ms
allocate virtual reg cache for device 0, t=50693ms
allocate virtual reg cache for device 1, t=50694ms
me=00bb.5233.33bb, assigned-ID=2, finished cost calculation
device 0, cost = 15, through conn-port[0], prec device=1
device 1, cost = 10, through conn-port[0], prec device=3
device 2, cost = 0, through conn-port[0], prec device=255
device 3, cost = 0, through conn-port[0], prec device=255
device 8, cost = 10, through conn-port[1], prec device=3
stack unit 1 createPPDevices(0), num=2, remote_state=0, rel-seq#=4C640000
Created 2 devs from 0 for unit 1, time=1094 us
Master/standby hotswap delay callback
```

debug stacking disable-task

Syntax: [no] debug stacking disable-task

This command disables the interprocess communication (IPC) that transmits the tasks.

```
Brocade# debug stacking disable-task

FCX Boot Code Version 7.0.1  (grz07001)
Enter 'a' to stop at memory test
Enter 'b' to stop at boot monitor
BOOT INFO: load monitor from boot flash, cksum = 227c
BOOT INFO: verify flash files.............
BOOT INFO: debug enabled!!!
BOOT INFO: load image from primary copy...

BOOT INFO: debug enabled!!!
.............
....
Starting Main Task .
Task StkKeepAlive is not created due to debugging  <==== result
..Pre Parsing Config Data ...

Parsing Config Data ...

SYSLOG: <14>Jan  1 00:00:00 10.44.22.57 System: Warm start

SYSLOG: <14>Jan  1 00:00:00 10.44.22.57 DHCPC: protocol disabled
  Copyright (c) 1996-2010 Brocade Communications Systems, Inc.
    UNIT 2: compiled on Apr 27 2010 at 04:58:36 labeled as FCXS07100b93
                (4210939 bytes) from Primary FCXS07100b93.bin
         SW: Version 07.1.00b93T7f1
  Boot-Monitor Image size = 369286, Version:07.0.01T7f5 (grz07001)
  HW: Stackable FCX648S-PREM (PROM-TYPE FCX-ADV-U)
==========================================================================
UNIT 2: SL 1: FCX-48GS 48-port Management Module
         License: BASE_SOFT_PACKAGE   (LID: )
         P-ENGINE  0: type DB90, rev 01
         P-ENGINE  1: type DB90, rev 01
```

```
======================================================================
UNIT 2: SL 2: FCX-2XGC 2-port 16G Module (2-CX4)
======================================================================
UNIT 2: SL 3: FCX-2XG 2-port 10G Module (2-XFP)
======================================================================
  800 MHz Power PC processor 8544E (version 33/0022) 400 MHz bus
65536 KB flash memory
  256 MB DRAM
Monitor Option is on
STACKID 2  system uptime is 17 seconds
The system : started=warm start  reloaded=by "reload"
My stack unit ID = 2, bootup role = active
```

debug stacking download

Syntax: [no] **debug stacking download** <*decimal*>

This command monitors the download of the stacking devices. The <*decimal*> variable refers to the number of the stack.

```
Brocade# debug stacking download 1
Brocade# copy tftp flash 10.44.22.11 FCXS07100b93.bin pri
Brocade# Flash Memory Write (8192 bytes per dot) deinit for 1
init ipc to 1
deinit for 5
init ipc to 5
target = 1, channel = 1, connection established
target = 5, channel = 1, connection established
stack member 5, start 9216, block 25
.stack member 5, start 21504, block 50
.....stack member 5, start 32768, block 75
stack member 5, start 44032, block 100
stack member 1, start 69632, block 125
.stack member 1, start 81920, block 150
........stack member 1, start 94208, block 175
stack member 1, start 105472, block 200
stack member 1, start 116736, block 225
.stack member 1, start 128000, block 250
stack member 5, start 140288, block 275
.stack member 5, start 152576, block 300
............stack member 5, start 163840, block 325
stack member 5, start 175104, block 350
stack member 5, start 186368, block 375
stack member 5, start 197632, block 400
stack member 1, start 222208, block 425
.stack member 1, start 233472, block 450
stack member 1, start 245760, block 475
.................stack member 1, start 258048, block 500
stack member 1, start 269312, block 525
stack member 1, start 280576, block 550
stack member 5, start 292864, block 575
stack member 5, start 304128, block 600
stack member 5, start 315392, block 625
stack member 5, start 326656, block 650
.stack member 1, start 351232, block 675
.stack member 1, start 362496, block 700
.............stack member 1, start 374784, block 725
stack member 1, start 386048, block 750
stack member 1, start 397312, block 775
stack member 1, start 408576, block 800
```

```
stack member 5, start 420864, block 825
stack member 5, start 432128, block 850
.stack member 5, start 443392, block 875
.............stack member 5, start 454656, block 900
stack member 1, start 479232, block 925
stack member 1, start 490496, block 950
stack member 1, start 501760, block 975
stack member 1, start 513024, block 1000
.stack member 1, start 0, block 1025
.....................stack member 1, start 12288, block 1050
stack member 5, start 24576, block 1075
stack member 5, start 35840, block 1100
stack member 5, start 47104, block 1125
stack member 5, start 58368, block 1150
stack member 1, start 82944, block 1175
stack member 1, start 94208, block 1200
stack member 1, start 105472, block 1225
.stack member 1, start 116736, block 1250
...............stack member 1, start 129024, block 1275
stack member 1, start 140288, block 1300
stack member 5, start 152576, block 1325
stack member 5, start 163840, block 1350
stack member 5, start 175104, block 1375
stack member 5, start 186368, block 1400
.stack member 1, start 210944, block 1425
.........stack member 1, start 222208, block 1450
stack member 1, start 233472, block 1475
.......stack member 1, start 244736, block 1500
stack member 1, start 256000, block 1525
stack member 5, start 268288, block 1550
stack member 5, start 279552, block 1575
stack member 5, start 290816, block 1600
stack member 5, start 302080, block 1625
stack member 5, start 313344, block 1650
stack member 1, start 337920, block 1675
stack member 1, start 349184, block 1700
stack member 1, start 360448, block 1725
stack member 1, start 371712, block 1750
stack member 5, start 384000, block 1775
stack member 5, start 395264, block 1800
stack member 5, start 406528, block 1825
stack member 5, start 417792, block 1850

on members:

target = 2, channel = 1, connection established
Download request received from active...
unit = 2, mac = 00bb.5233.33bb
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
space_left = 33792, block = 25, size = 1024
resuming delivery..
resuming delivery..
```

```
resuming delivery..
resuming delivery..
resuming delivery..
space_left = 28672, block = 50, size = 1024
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
space_left = 38912, block = 75, size = 1024
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
space_left = 40960, block = 100, size = 1024
resuming delivery..
space_left = 16384, block = 125, size = 1024
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
space_left = 31744, block = 150, size = 1024
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
space_left = 34816, block = 175, size = 1024
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
resuming delivery..
space_left = 36864, block = 200, size = 1024
```

debug stacking election

Syntax: [no] **debug stacking election**

This command monitors the election and ID assignment of the stack.

```
Brocade# debug stacking election
UNIT2:Trigger election due to change of port-up, t=201 ms
UNIT2:Curr-active:
UNIT2:Curr-active elect, ind=3, has_b_act=1
  u2 no qualify, role_trans = member
  u5 no qualify, role_trans = member
  1 qualify, ary-ind =2, , units: 1,
  boot-master. id-le 1
  bootup-active. ind=3, final cnt = 1
  bootup-active. winner id-le=1, id-bo=1
  ---winner, ind= 2, id-le= 1, id-bo=1
```

```
UNIT2:
--------- active mac = 4580, take assigned-ID = 1
UNIT2:Mac=0024.3815.4580, FCX648S id-bootup=1, id_learned=1 (assigned)
UNIT2:Mac=00bb.5233.33bb, FCX648S id-bootup=2, id_learned=2 (not-yet)
UNIT2:Mac=00e0.5208.0000, FCX624S id-bootup=5, id_learned=5 (not-yet)
UNIT2:assign ID, based on assigned-ID
UNIT2:Mac=0024.3815.4580, FCX648S id-bootup=1, id_learned=1 (assigned)
UNIT2:Mac=00bb.5233.33bb, FCX648S id-bootup=2, id_learned=2 (assigned)
UNIT2:Mac=00e0.5208.0000, FCX624S id-bootup=5, id_learned=5 (assigned)

Active unit config:
mailbox->stack_config_ary_index = 3
[0]: ID=1, prior=100, mod=FDF0F (CHEETAH3_48G), p=1/4/64 1/2/2, def=1/2/1 1/2/2
[1]: ID=2, prior=50, mod=FDF0F (CHEETAH3_48G), p=1/2/1 1/2/2, def=1/2/1 1/2/2
[2]: ID=5, prior=0, mod=FFF0E (CHEETAH3_24G), p=1/2/1 1/4/64, def=1/2/1 1/2/2
UNIT2:permutation: n=5, m=0, map_ary[5] = 3 4 6 7 8
UNIT2:    mailbox_map[0] =
UNIT2:perm[0]: Iter 0, optimal_weight = 0, maximum_weight=-10000, res=0
UNIT2:best ary[0] =
UNIT2:Election, I member. id-le=2,  A=1, total 3 units, delay 5 * 100 ms
Election, was member, no role change, ID=2, total 3 units, priority=50
UNIT2:stack unit 5, port change to 5/2/1 5/2/2
UNIT2:stack unit 5, port change to 5/2/1 INVALID
UNIT2:stack unit 1, port change to 1/2/1 1/2/2
UNIT2:stack unit 1, port change to INVALID 1/2/2
Write stack flash:
[MEMBER]local-2@FCX648S Switch>Unit 2 becomes ready
Connecting to active controller 1 console...

UNIT2:Change me role_transit from member to standby
UNIT2:Change my role from member to standby
UNIT2:Change me role_transit from standby to member
UNIT2:Change me role_transit from member to standby
Future-active:
  [0] u1, qualify=1. c_sync=1, is_A=1, r_state = 0
  [1] u2, qualify=1. c_sync=1, is_A=1, r_state = 16
  [2] u5, qualify=1. c_sync=1, is_A=1, r_state = 16
  3 qualify, ary-ind =0-2, , units: 1, 2, 5,
  config-prior. id-le 1 high prior 100
  config-priority. ind=3, final cnt = 1
  config-priority. winner id-le=1, id-bo=1
  ---winner, ind= 0, id-le= 1, id-bo=1
Curr-standby:
Curr-standby elect, ind=2
  u2 parsed=0, qualify
  u5 parsed=0, qualify
  2 qualify, ary-ind =0-1, , units: 2, 5,
  config-prior. id-le 2 high prior 50
  config-priority. ind=2, final cnt = 1
  config-priority. winner id-le=2, id-bo=2
  ---winner, ind= 0, id-le= 2, id-bo=2
Future-standby:
Future-standby elect, ind=2
  2 qualify, ary-ind =0-1, , units: 2, 5,
  config-prior. id-le 2 high prior 50
  config-priority. ind=2, final cnt = 1
  config-priority. winner id-le=2, id-bo=2
  ---winner, ind= 0, id-le= 2, id-bo=2
```

debug stacking reg-cache-group

Syntax: [no] **debug stacking reg-cache-group** <*decimal*>

This command displays the debug information of the specified registration cache group. The <*decimal*> variable refers to the number of the registration cache group.

```
Brocade# debug stacking reg-cache group 3
booting..
copyright (c) 1996-2010 Brocade Communications Systems, Inc.
    UNIT 2: compiled on Apr 27 2010 at 04:58:36 labeled as FCXS07100b93
                (4210939 bytes) from Primary FCXS07100b93.bin
         SW: Version 07.1.00b93T7f1
  Boot-Monitor Image size = 369286, Version:07.0.01T7f5 (grz07001)
  HW: Stackable FCX648S-PREM (PROM-TYPE FCX-ADV-U)
==========================================================================
UNIT 2: SL 1: FCX-48GS 48-port Management Module
         License: BASE_SOFT_PACKAGE   (LID: )
         P-ENGINE  0: type DB90, rev 01
         P-ENGINE  1: type DB90, rev 01
==========================================================================
UNIT 2: SL 2: FCX-2XGC 2-port 16G Module (2-CX4)
==========================================================================
UNIT 2: SL 3: FCX-2XG 2-port 10G Module (2-XFP)
==========================================================================
  800 MHz Power PC processor 8544E (version 33/0022) 400 MHz bus
65536 KB flash memory
  256 MB DRAM
Monitor Option is on
STACKID 2  system uptime is 17 seconds
The system : started=warm start  reloaded=by "reload"
My stack unit ID = 2, bootup role = active

Brocade>Election, was alone --> active, ID=2, total 3 units, priority=100
receives group 3 (RW packet 2) for device 8, 1452 bytes
receives group 3 (RW packet 2) for device 0, 1452 bytes
receives group 3 (RW packet 2) for device 1, 1452 bytes
```

debug stacking sync_rel_msg

Syntax: [no] **debug stacking sync_rel_msg** <*num*>

This command displays diagnostic information for hitless stacking switchover or failover. The <*num*> variable specifies the message number.

```
Brocade# debug stacking sync_rel_msg 1
stk_sync_rel_msg_create_ipc_session:session created for stack_id=1
stk_sync_rel_msg_send():sent msg_type = 16, len 1203
stk_sync_rel_msg_free:msg freed
start runing config sync
stk_sync_rel_msg_send():sent msg_type = 3, len 1024
stk_sync_rel_msg_free:msg freed

Brocade# debug stacking sync_rel_msg 4
stk_sync_trunk_mapping:sending trunk mapping...
start running config sync
sync_cdb:send cdb:sess = 0, pBuf = 2132f068
sync_cdb:send cdb:sess = 0, pBuf = 2132f57c
...
stk_sync_cdb:finished cdb sync
```

```
Brocade# debug stacking sync_rel_msg 8
Hitless sync: TRUNK INFO size (1282)
**********************************
Trunk ID: 10 (1 based), (Hw Trunk ID: 1),
g_sw_sys.trunk_config.trunk_entry[#9]
:number_of_ports = 2; creator = 0
g_sw_sys.trunk_config.trunk_entry[#9] MEMBER PORTS
port_list[0]=#009
port_list[1]=#010
```

debug stacking time

Syntax: [no] debug stacking time

This command displays the CPU time and other debug information.

```
Brocade# debug stacking time

Starting Main Task .build register cache, cpu time = 218238 us
..Pre Parsing Config Data ...

  Copyright (c) 1996-2010 Brocade Communications Systems, Inc.
    UNIT 1: compiled on Apr 27 2010 at 04:58:36 labeled as FCXS07100b93
                (4210939 bytes) from Primary FCXS07100b93.bin
         SW: Version 07.1.00b93T7f1
  Boot-Monitor Image size = 369048, Version:07.0.00T7f5 (grz07000b1)
  HW: Stackable FCX648S
==============================================================================
UNIT 1: SL 1: FCX-48GS 48-port Management Module
         Serial  #: BCX2235E01J
         License: BASE_SOFT_PACKAGE   (LID: dezHHIKgFGl)
         P-ENGINE  0: type DB90, rev 01
         P-ENGINE  1: type DB90, rev 01
==============================================================================
UNIT 1: SL 2: FCX-2XGC 2-port 16G Module (2-CX4)
==============================================================================
UNIT 1: SL 3: FCX-2XG 2-port 10G Module (2-XFP)
==============================================================================
  800 MHz Power PC processor 8544E (version 33/0022) 400 MHz bus
65536 KB flash memory
  256 MB DRAM
Monitor Option is on
STACKID 1  system uptime is 17 seconds
The system : started=warm start  reloaded=by "reload"
Enable stacking. This unit actively participates in stacking
My stack unit ID = 1, bootup role = standby

Election, was member, no role change, ID=1, total 3 units, priority=50
build register cache, cpu time = 6101 us
UNIT1:Delete some stack member devices, time = 6257 us
build register cache, cpu time = 5533 us
[MEMBER]local-1@FCX648S Switch>Unit 1 becomes ready
UNIT1:Ready, since START 12, SEND_GROUP 11, DONE_DY 1,  unit 100ms

Stack unit 1 Power supply 1 detected and up.
Shadow table takes 636976 bytes per device
Shadow table takes 1273952 bytes per device
Stack unit 5 Power supply 1 is up
Stack unit 5 Power supply 2 is down
```

```
Indirect table takes 644656 bytes
Indirect table takes 644656 bytes
Indirect table takes 644656 bytes
build register cache, cpu time = 11137 us
UNIT1:Delete some stack member devices, time = 11364 us
UNIT1:hot swap stack 2, cpu time = 23499 us
Done hot swap: Set stack unit 2 to Ready role standby
UNIT1:hot swap stack 5, cpu time = 16125 us
Done hot swap: Set stack unit 5 to Ready role standby
Stack unit 2 Power supply 1 is up
```

debug stacking topology

Syntax: [no] **debug stacking topology**

This command monitors topology change and port up or down status.

```
Brocade# debug stacking topology

Calculate topology, num=1: ID=2,
[0] u2, nbr=255 255, def-p=1/2/1 1/2/2, stk-p=1/2/1 1/2/2

Election, was alone --> active, ID=2, total 2 units, priority=100
Calculate topology, num=2: ID=2, 5,
[0] u2, nbr=255 5, def-p=1/2/1 1/2/2, stk-p=1/2/1 1/2/2
[1] u5, nbr=2 255, def-p=1/2/1 1/2/2, stk-p=1/2/1 1/4/64
Calculate topology, num=2: ID=2, 5,
[0] u2, nbr=255 5, def-p=1/2/1 1/2/2, stk-p=1/2/1 1/2/2
[1] u5, nbr=2 255, def-p=1/2/1 1/2/2, stk-p=1/2/1 1/4/64
FCX648S Switch>Done hot swap: Set stack unit 5 to Ready role active
Election, was active, no role change, ID=2, total 3 units, priority=100
Calculate topology, num=3: ID=1, 2, 5,
[0] u1, nbr=255 2, def-p=1/2/1 1/2/2, stk-p=1/4/64 1/2/2
[1] u2, nbr=1 5, def-p=1/2/1 1/2/2, stk-p=1/2/1 1/2/2
[2] u5, nbr=2 255, def-p=1/2/1 1/2/2, stk-p=1/2/1 1/4/64
Calculate topology, num=3: ID=1, 2, 5,
[0] u1, nbr=255 2, def-p=1/2/1 1/2/2, stk-p=1/4/64 1/2/2
[1] u2, nbr=1 5, def-p=1/2/1 1/2/2, stk-p=1/2/1 1/2/2
[2] u5, nbr=2 255, def-p=1/2/1 1/2/2, stk-p=1/2/1 1/4/64
Stack unit 5 Power supply 1 is up
Stack unit 5 Power supply 2 is down
Done hot swap: Set stack unit 1 to Ready role active
```

System debug commands

The following system debug commands enable debugging of the system services and device drivers.

debug system campram

Syntax: [no] **debug system campram**

This command traces Content Addressable Memory (CAM) or Parallel Random Access Machine (PRAM) operations.

```
Brocade# debug system campram
cam/pram:  Trace debugging is on
```

debug system optics

Syntax: [no] **debug system optics**

This command activates optical monitor debugging.

```
Brocade# debug system optics
optics:  Trace debugging is on
```

debug system poll

Syntax: [no] **debug system poll**

This command is used for backplane polling.

```
Brocade# debug system poll
backplane-poll:  Trace debugging is on
```

Chapter

3

Layer 2 Debug Commands

In this chapter

STP debug commands

The Spanning Tree Protocol (STP) eliminates Layer 2 loops in networks, by selectively blocking some ports and allowing other ports to forward traffic, based on the global (bridge) and local (port) parameters.

STP-related features, such as Rapid Spanning Tree Protocol (RSTP) and Per VLAN Spanning Tree (PVST), extend the operation of standard STP, enabling you to fine-tune standard STP and avoid some of its limitations.

You can enable or disable STP on a global basis (for the entire device), a port-based Virtual Local Area Network (VLAN) basis (for the individual Layer 2 broadcast domain), or an individual port basis. For more information on configuring STP, refer to the *FastIron Configuration Guide*.

A control protocol, such as STP, can block one or more ports in a protocol-based VLAN that uses a virtual routing interface to route to other VLANs. For IP VLANs and IP subnet VLANs, even though some of the physical ports of the virtual routing interface are blocked, the virtual routing interface can still route as long as at least one port in the protocol-based VLAN is not blocked by STP.

The following are the commands used to enable the STP debugging.

debug span all_802_1d_events

Syntax: [**no**] **debug span all_802_1d_events vlan** <*decimal*>

This command monitors information about all the events, timers, and packets on a specific VLAN. The <*decimal*> variable refers to the number of the VLAN.

The output from this command resembles the following example.

```
Brocade# debug span all_802_1d_events vlan 2
STP  Enabling All events Debugging for VLAN 2

Brocade# STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/5
```

```
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 05 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/6
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 06 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/5
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 05 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/6
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 06 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/5
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 05 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/6
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 06 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/5
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 05 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/6
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 06 0100 1400 0200 0f00

Disabling the debug span all_802_1d_events on FCX:
Brocade# no debug span all_802_1d_events  vlan  2
STP : Disabling All 802.1w Debugging for VLAN 2
```

debug span config

Syntax: [**no**] **debug span config vlan** <*decimal*>

This command monitors information about STP Bridge Protocol Data Unit (BPDU) configuration on a specific VLAN. The <*decimal*> variable refers to the number of the VLAN.

If the configuration of VLAN 2 on the Brocade FCX is enabled, the output similar to the following is displayed.

```
Brocade# debug span config vlan 2
STP Enabling packets Debugging for VLAN 2

Brocade# STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/5
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 05 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/6
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 06 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/5
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 05 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/6
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 06 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/5
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 05 0100 1400 0200 0f00
STP: Transmitting Config BPDU - VLAN 2 - Port 1/1/6
0000 00 00 00 80000012f2dbfd80 00000004
8000002438154580 08 06 0100 1400 0200 0f00
```

If the configuration of VLAN 2 on the Brocade FCX is disabled, the output similar to the following is displayed.

```
Brocade# no debug  span config vlan 2
STP :   Disabling Packets Debugging for VLAN 2
```

debug span timers

Syntax: [no] **debug span timers vlan** <*decimal*>

This command displays information about the specific STP timer events. The <*decimal*> variable refers to the number of the VLAN.

If the STP timer event on VLAN 2 of the Brocade FCX is enabled, the output similar to the following is displayed.

```
Brocade# debug span timers vlan 2
STP Enabling Timer Debugging for VLAN 2

Sample output:
STP: Timer Alert - Forward Delay Timer expired On port 1/1/6(5) , VLAN 2
STP: Timer Alert - Forward Delay Timer expired On port 1/1/1(0) , VLAN 2
STP: Timer Alert - Forward Delay Timer expired On port 1/1/6(5) , VLAN 2
STP: Timer Alert - Message Age Timer expired On port 1/1/1(0) , VLAN 2
STP: Timer Alert - Message Age Timer expired On port 1/1/2(1) , VLAN 2
STP: Timer Alert - Forward Delay Timer expired On port 1/1/2(1) , VLAN 2
STP: Timer Alert - Forward Delay Timer expired On port 1/1/2(1) , VLAN 2
```

If the STP timer event on VLAN 2 of the Brocade FCX is disabled, the output similar to the following is displayed.

```
Brocade# no debug span timers vlan 2
STP  Disabling Timer Debugging for VLAN 2
```

RSTP debug commands

RSTP provides rapid traffic reconvergence for point-to-point links within a few milliseconds (less than 500 milliseconds) following the failure of a bridge or bridge port. This reconvergence occurs more rapidly than that provided by STP because convergence in RSTP bridges is based on the explicit handshakes between designated ports and their connected root ports rather than on timer values. The **debug 802.1w** command displays some information about RSTP.

NOTE
For RSTP debug commands, enter 4094 if STP is enabled. Enter the VLAN ID for Multiple Spanning Tree Protocol (MSTP). The CLI alerts the user if the VLAN ID does not exist.

debug 802.1w all_802_1w_events

Syntax: [no] **debug 802.1w all_802_1w_events vlan** <*decimal*>

This command debugs all the RSTP transactions, timers, and packets on a specific VLAN. The <*decimal*> variable refers to the number of the VLAN.

If the events are enabled, the output similar to the following is displayed.

```
Brocade# debug 802.1w all_802_1w_events vlan 2
RSTP  Enabling All events Debugging for VLAN 2
```

```
Brocade# RSTP[daa69]: Timer Alert - helloWhen timer_expired On port 1/1/2(1) ,
VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/2(1) VLAN 2
RSTP: PTX =>ROLE is ALTERNATE or BACKUP , port 1/1/2(1), VLAN 2
RSTP[daa69]: Timer Alert - helloWhen timer_expired On port 1/1/9(8) , VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/9(8) VLAN 2
RSTP[daa69]: Tx RST Config BPDU Port 1/1/9(8) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00004e20
8000002438154580 08 09 0100 1400 0200 0f00
RSTP: Rcvd RST Config BPDU: Port 1/1/1(0) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 01 0000 0000 0000 0000
RSTP: PRT =>no valid transition found ,no error, port 1/1/1(0) VLAN 2
RSTP: Rcvd RST Config BPDU: Port 1/1/2(1) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 02 0000 0000 0000 0000
RSTP[daa7d]: Timer Alert - helloWhen timer_expired On port 1/1/2(1) , VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/2(1) VLAN 2
RSTP: PTX =>ROLE is ALTERNATE or BACKUP , port 1/1/2(1), VLAN 2
RSTP[daa7d]: Timer Alert - helloWhen timer_expired On port 1/1/9(8) , VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/9(8) VLAN 2
RSTP[daa7d]: Tx RST Config BPDU Port 1/1/9(8) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00004e20
8000002438154580 08 09 0100 1400 0200 0f00
RSTP: Rcvd RST Config BPDU: Port 1/1/1(0) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 01 0000 0000 0000 0000
RSTP: PRT =>no valid transition found ,no error, port 1/1/1(0) VLAN 2
RSTP: Rcvd RST Config BPDU: Port 1/1/2(1) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 02 0000 0000 0000 0000
RSTP[daa91]: Timer Alert - helloWhen timer_expired On port 1/1/2(1) , VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/2(1) VLAN 2
RSTP: PTX =>ROLE is ALTERNATE or BACKUP , port 1/1/2(1), VLAN 2
RSTP[daa91]: Timer Alert - helloWhen timer_expired On port 1/1/9(8) , VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/9(8) VLAN 2
RSTP[daa91]: Tx RST Config BPDU Port 1/1/9(8) VLAN 2
```

If the events are disabled, the output similar to the following is displayed.

```
Brocade# no debug 802.1w all_802_1w_events vlan 2
RSTP  Disabling All 802.1w Debugging for VLAN 2
```

debug 802.1w messages

Syntax: [no] **debug 802.1w messages vlan** <*decimal*>

This command displays BPDU information on a VLAN. The <*decimal*> variable refers to the number of the VLAN.

If the 802.1w messages are enabled, an output similar to the following is displayed.

```
Brocade# debug 802.1w messages vlan 2
RSTP  Enabling packets Debugging for VLAN 2

Brocade# RSTP: Rcvd RST Config BPDU: Port 1/1/1(0) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 01 0000 0000 0000 0000
RSTP: Rcvd RST Config BPDU: Port 1/1/2(1) VLAN 2
```

```
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 02 0000 0000 0000 0000
RSTP[db06d]: Tx RST Config BPDU Port 1/1/9(8) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00004e20
8000002438154580 08 09 0100 1400 0200 0f00
RSTP: Rcvd RST Config BPDU: Port 1/1/1(0) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 01 0000 0000 0000 0000
RSTP: Rcvd RST Config BPDU: Port 1/1/2(1) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 02 0000 0000 0000 0000
RSTP[db081]: Tx RST Config BPDU Port 1/1/9(8) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00004e20
8000002438154580 08 09 0100 1400 0200 0f00
RSTP: Rcvd RST Config BPDU: Port 1/1/1(0) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 01 0000 0000 0000 0000
RSTP: Rcvd RST Config BPDU: Port 1/1/2(1) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 02 0000 0000 0000 0000
RSTP[db095]: Tx RST Config BPDU Port 1/1/9(8) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00004e20
8000002438154580 08 09 0100 1400 0200 0f00

Brocade# RSTP: Rcvd RST Config BPDU: Port 1/1/1(0) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 01 0000 0000 0000 0000
RSTP: Rcvd RST Config BPDU: Port 1/1/2(1) VLAN 2
0000 02 02 7e 80000012f2dbfd80 00000000
80000012f2dbfd80 08 02 0000 0000 0000 0000
```

If the 802.1w messages are disabled, the output similar to the following is displayed.

```
Brocade# no debug 802.1w messages valn 2
RSTP  Disabling Packets Debugging for VLAN 2
```

debug 802.1w timer

Syntax: [no] **debug 802.1w timer vlan** <*decimal*>

This command debugs the RSTP (802.1w) timer expiration. The <*decimal*> variable refers to the number of the VLAN.

If the timer is enabled, an output similar to the following is displayed.

```
Brocade# debug 802.1w timer vlan 2

Brocade# RSTP[db6fd]: Timer Alert - helloWhen timer_expired On port 1/1/2(1) ,
VLAN 2
RSTP[db6fd]: Timer Alert - helloWhen timer_expired On port 1/1/9(8) , VLAN 2
RSTP[db711]: Timer Alert - helloWhen timer_expired On port 1/1/2(1) , VLAN 2
RSTP[db711]: Timer Alert - helloWhen timer_expired On port 1/1/9(8) , VLAN 2
RSTP[db725]: Timer Alert - helloWhen timer_expired On port 1/1/2(1) , VLAN 2
RSTP[db725]: Timer Alert - helloWhen timer_expired On port 1/1/9(8) , VLAN 2
RSTP[db739]: Timer Alert - helloWhen timer_expired On port 1/1/2(1) , VLAN 2
```

If the timer is disabled, the output similar to the following is displayed.

```
Brocade# no debug 802.1w timer vlan 2
RSTP  Disabling Timer Debugging for VLAN 2
```

debug 802.1w transitions

Syntax: [**no**] **debug 802.1w transitions vlan** <*decimal*>

This command debugs the RSTP state machine transitions. The <*decimal*> variable refers to the number of the VLAN.

If the 802.1w transtitions are enabled, an output similar to the following is displayed.

```
Brocade# debug 802.1w transitions vlan 2
RSTP  Enabling Events Debugging for VLAN 2

Brocade# RSTP: PRT =>no valid transition found ,no error, port 1/1/1(0) VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/2(1) VLAN 2
RSTP: PTX =>ROLE is ALTERNATE or BACKUP , port 1/1/2(1), VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/9(8) VLAN 2
RSTP: PRT =>no valid transition found ,no error, port 1/1/1(0) VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/2(1) VLAN 2
RSTP: PTX =>ROLE is ALTERNATE or BACKUP , port 1/1/2(1), VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/9(8) VLAN 2
RSTP: PRT =>no valid transition found ,no error, port 1/1/1(0) VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/2(1) VLAN 2
RSTP: PTX =>ROLE is ALTERNATE or BACKUP , port 1/1/2(1), VLAN 2
RSTP: PTX entering the Periodic state  , port 1/1/9(8) VLAN 2
```

If the 802.1w transtitions are disabled, the output similar to the following is displayed.

```
Brocade# no debug 802.1w transitions vlan 2
RSTP  Disabling Events Debugging for VLAN 2
```

MSTP debug commands

With Multiple Spanning Tree Protocol (MSTP), the entire network runs a common instance of RSTP. Within the common instance, one or more VLANs can be individually configured into distinct regions. The entire network runs the Common Spanning Tree (CST) instance and the regions run a local instance, or Internal Spanning Tree (IST). Because the CST treats each IST as a single bridge, ports are blocked to prevent loops that might occur within an IST and also throughout the CST. In addition, MSTP can coexist with individual devices running STP or RSTP in the Common and Internal Spanning Tree instance (CIST). With the exception of the provisions for multiple instances, MSTP operates exactly like RSTP.

The following MSTP debug commands are used for debugging information.

debug mstp bpdu

Syntax: [**no**] **debug mstp bpdu**

This command records and displays information in conjunction with the **debug mstp enable** and **debug mstp events** commands. When the **debug mstp bpdu** command is enabled, it monitors MSTP BPDUs.

If this command is enabled, an output similar to the following is displayed.

```
Brocade# debug mstp bpdu
MSTP Bpdu debugging ON
```

```
Brocade# debug mstp enable

Brocade# MSTP[0xeb217]: PRX RECEIVE->RECEIVE - Port 1/1/1
MST 0, Port 1/1/1 - received BPDU

(802.1s) 0000 03 02 7c 80000012f2dbfd80 00000000
        80000012f2dbfd80 00000000 8001 0000 0014 0002 000f 80000012f2dbfd80 14
        {0xac36177f50283cd4b83821d8ab26de62}
MSTP[0xeb217]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/1
MSTP[0xeb217]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/1, rcvdInfoWhile 5->7
MSTP[0xeb217]: PRX RECEIVE->RECEIVE - Port 1/1/2
MST 0, Port 1/1/2 - received BPDU
        [0xeb217] (802.1s) 0000 03 02 3c 80000012f2dbfd80 00000000
        80000012f2dbfd80 00000000 8002 0000 0014 0002 000f 80000012f2dbfd80 14
        {0xac36177f50283cd4b83821d8ab26de62}
MSTP[0xeb217]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/2
MSTP[0xeb217]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/2
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/2, rcvdInfoWhile 5->7
MSTP[0xeb21b]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/1
MSTP[0xeb21b]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/2
MSTP[0xeb22b]: PRX RECEIVE->RECEIVE - Port 1/1/1
MST 0, Port 1/1/1 - received BPDU
        [0xeb22b] (802.1s) 0000 03 02 7c 80000012f2dbfd80 00000000
        80000012f2dbfd80 00000000 8001 0000 0014 0002 000f 80000012f2dbfd80 14
        {0xac36177f50283cd4b83821d8ab26de62}
MSTP[0xeb22b]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/1
MSTP[0xeb22b]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/1, rcvdInfoWhile 5->7
MSTP[0xeb22b]: PRX RECEIVE->RECEIVE - Port 1/1/2
MST 0, Port 1/1/2 - received BPDU
        [0xeb22b] (802.1s) 0000 03 02 3c 80000012f2dbfd80 00000000
        80000012f2dbfd80 00000000 8002 0000 0014 0002 000f 80000012f2dbfd80 14
        {0xac36177f50283cd4b83821d8ab26de62}
MSTP[0xeb22b]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/2
MSTP[0xeb22b]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/2
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/2, rcvdInfoWhile 5->7
MSTP[0xeb22f]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/1
MSTP[0xeb22f]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/2
MSTP[0xeb23f]: PRX RECEIVE->RECEIVE - Port 1/1/1
MST 0, Port 1/1/1 - received BPDU
        [0xeb23f] (802.1s) 0000 03 02 7c 80000012f2dbfd80 00000000
        80000012f2dbfd80 00000000 8001 0000 0014 0002 000f 80000012f2dbfd80 14
        {0xac36177f50283cd4b83821d8ab26de62}
MSTP[0xeb23f]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/1
MSTP[0xeb23f]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/1, rcvdInfoWhile 5->7
MSTP[0xeb23f]: PRX RECEIVE->RECEIVE - Port 1/1/2
MST 0, Port 1/1/2 - received BPDU
        [0xeb23f] (802.1s) 0000 03 02 3c 80000012f2dbfd80 00000000
        80000012f2dbfd80 00000000 8002 0000 0014 0002 000f 80000012f2dbfd80 14
        {0xac36177f50283cd4b83821d8ab26de62}
MSTP[0xeb23f]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/2
MSTP[0xeb23f]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/2
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/2, rcvdInfoWhile 5->7
MSTP[0xeb243]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/1
MSTP[0xeb243]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/2
MSTP[0xeb253]: PRX RECEIVE->RECEIVE - Port 1/1/1
MST 0, Port 1/1/1 - received BPDU
        [0xeb253] (802.1s) 0000 03 02 7c 80000012f2dbfd80 00000000
```

```
80000012f2dbfd80 00000000 8001 0000 0014 0002 000f 80000012f2dbfd80 14
{0xac36177f50283cd4b83821d8ab26de62}
```

debug mstp events

Syntax: [no] **debug mstp events**

This command displays MSTP state machine events. It monitors any MSTP events that take place.

```
Brocade# debug mstp events
MSTP Event debugging ON
```

If MSTP events are enabled, an output similar to the following is displayed.

```
Brocade# debug mstp enable
Brocade# MSTP[0xeda7f]: PRX RECEIVE->RECEIVE - Port 1/1/1
MSTP[0xeda7f]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/1
MSTP[0xeda7f]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/1, rcvdInfoWhile 5->7
MSTP[0xeda7f]: PRX RECEIVE->RECEIVE - Port 1/1/2
MSTP[0xeda7f]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/2
MSTP[0xeda7f]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/2
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/2, rcvdInfoWhile 5->7
MSTP[0xeda89]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/1
MSTP[0xeda89]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/2
MSTP[0xeda93]: PRX RECEIVE->RECEIVE - Port 1/1/1
MSTP[0xeda93]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/1
MSTP[0xeda93]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/1
```

If MSTP events are disabled, an output similar to the following is displayed.

```
Brocade# no debug mstp events
MSTP Event debugging OFF
```

debug mstp level

Syntax: [no] **debug mstp level** <*decimal*>

This command monitors MSTP. Level 3 gives more information than level 2, and level 0 gives no information. The <*decimal*> variable refers to the level of MSTP.

```
Brocade# debug mstp level 2
Configuration :

Brocade# [ebd95] MSTP_RX[pid=#0]  ***
[ebd95] MSTP_RX[pid=#0] done (region) ***
[ebd95] MSTP_RX[pid=#1]  ***
[ebd95] MSTP_RX[pid=#1] done (region) ***
[ebda9] MSTP_RX[pid=#0]  ***
[ebda9] MSTP_RX[pid=#0] done (region) ***
[ebda9] MSTP_RX[pid=#1]  ***
[ebda9] MSTP_RX[pid=#1] done (region) ***
[ebdbd] MSTP_RX[pid=#0]  ***
[ebdbd] MSTP_RX[pid=#0] done (region) ***
[ebdbd] MSTP_RX[pid=#1]  ***
[ebdbd] MSTP_RX[pid=#1] done (region) ***
[ebdd1] MSTP_RX[pid=#0]  ***
[ebdd1] MSTP_RX[pid=#0] done (region) ***
[ebdd1] MSTP_RX[pid=#1]  ***
[ebdd1] MSTP_RX[pid=#1] done (region) ***
[ebde5] MSTP_RX[pid=#0]  ***
```

```
[ebde5] MSTP_RX[pid=#0] done (region) ***
[ebde5] MSTP_RX[pid=#1]  ***
```

If the MSTP level 3 is enabled, an output similar to the following is displayed.

```
Brocade# debug mstp level 3

Brocade# [ebf4d] MSTP_RX[pid=#0]  ***
cist_Rx[ebf4d] CIST, Port(#0)
[ebf4d] MSTP_RX[pid=#0] done (region) ***
[ebf4d] MSTP_RX[pid=#1]  ***
cist_Rx[ebf4d] CIST, Port(#1)
[ebf4d] MSTP_RX[pid=#1] done (region) ***
[ebf61] MSTP_RX[pid=#0]  ***
cist_Rx[ebf61] CIST, Port(#0)
[ebf61] MSTP_RX[pid=#0] done (region) ***
[ebf61] MSTP_RX[pid=#1]  ***
cist_Rx[ebf61] CIST, Port(#1)
[ebf61] MSTP_RX[pid=#1] done (region) ***
n[ebf75] MSTP_RX[pid=#0]  ***
cist_Rx[ebf75] CIST, Port(#0)
[ebf75] MSTP_RX[pid=#0] done (region) ***
[ebf75] MSTP_RX[pid=#1]  ***
cist_Rx[ebf75] CIST, Port(#1)
[ebf75] MSTP_RX[pid=#1] done (region) ***
```

debug mstp msti

Syntax: [no] **debug mstp msti** <*decimal*>

This command displays information for a specific MSTP instance. The <*decimal*> variable specifies the value 0 for CIST and from 1 through 4094 for the Multiple Spanning Tree Instance (MSTI).

```
Brocade# debug mstp msti 0
MSTP debugging turned on for instances 0
```

If this command is enabled, an output similar to the following is displayed.

```
Brocade# debug mstp msti 2
MSTP debugging turned on for instances 2 ,0

Brocade# debug mstp enable
Brocade# debug mstp events
MSTP Event debugging ON

Brocade# MSTP[0x175f15]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/1
MSTP[0x175f15]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/2
MSTP[0x175f21]: PRX RECEIVE->RECEIVE - Port 1/1/1
MSTP[0x175f21]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/1
MSTP[0x175f21]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/1, rcvdInfoWhile 5->7
MSTP[0x175f21]: PIM CURRENT->RECEIVE - MST 2, Port 1/1/1
MSTP[0x175f21]: PIM RECEIVE->REPEATED_DESIGNATED - MST 2, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileMsti mst=2, Port 1/1/1, rcvdInfoWhile 4->7
MSTP[0x175f21]: PRX RECEIVE->RECEIVE - Port 1/1/2
MSTP[0x175f21]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/2
MSTP[0x175f21]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/2
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/2, rcvdInfoWhile 5->7
MSTP[0x175f21]: PIM CURRENT->RECEIVE - MST 2, Port 1/1/2
MSTP[0x175f21]: PIM RECEIVE->REPEATED_DESIGNATED - MST 2, Port 1/1/2
```

```
MSTP: mstp_updtRcvdInfoWhileMsti mst=2, Port 1/1/2, rcvdInfoWhile 4->7
MSTP[0x175f29]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/1
MSTP[0x175f29]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/2
noMSTP[0x175f35]: PRX RECEIVE->RECEIVE - Port 1/1/1
MSTP[0x175f35]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/1
MSTP[0x175f35]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/1, rcvdInfoWhile 5->7
MSTP[0x175f35]: PIM CURRENT->RECEIVE - MST 2, Port 1/1/1
MSTP[0x175f35]: PIM RECEIVE->REPEATED_DESIGNATED - MST 2, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileMsti mst=2, Port 1/1/1, rcvdInfoWhile 4->7
MSTP[0x175f35]: PRX RECEIVE->RECEIVE - Port 1/1/2
MSTP[0x175f35]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/2
MSTP[0x175f35]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/2
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/2, rcvdInfoWhile 5->7
MSTP[0x175f35]: PIM CURRENT->RECEIVE - MST 2, Port 1/1/2
MSTP[0x175f35]: PIM RECEIVE->REPEATED_DESIGNATED - MST 2, Port 1/1/2
MSTP: mstp_updtRcvdInfoWhileMsti mst=2, Port 1/1/2, rcvdInfoWhile 4->7
 deMSTP[0x175f3d]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/1
MSTP[0x175f3d]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/2
bug msMSTP[0x175f49]: PRX RECEIVE->RECEIVE - Port 1/1/1
MSTP[0x175f49]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/1
MSTP[0x175f49]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/1, rcvdInfoWhile 5->7
MSTP[0x175f49]: PIM CURRENT->RECEIVE - MST 2, Port 1/1/1
MSTP[0x175f49]: PIM RECEIVE->REPEATED_DESIGNATED - MST 2, Port 1/1/1
MSTP: mstp_updtRcvdInfoWhileMsti mst=2, Port 1/1/1, rcvdInfoWhile 4->7
MSTP[0x175f49]: PRX RECEIVE->RECEIVE - Port 1/1/2
MSTP[0x175f49]: PIM CURRENT->RECEIVE - MST 0, Port 1/1/2
MSTP[0x175f49]: PIM RECEIVE->REPEATED_DESIGNATED - MST 0, Port 1/1/2
MSTP: mstp_updtRcvdInfoWhileCist mst=0, Port 1/1/2, rcvdInfoWhile 5->7
MSTP[0x175f49]: PIM CURRENT->RECEIVE - MST 2, Port 1/1/2
MSTP[0x175f49]: PIM RECEIVE->REPEATED_DESIGNATED - MST 2, Port 1/1/2
MSTP: mstp_updtRcvdInfoWhileMsti mst=2, Port 1/1/2, rcvdInfoWhile 4->7
tpMSTP[0x175f51]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/1
MSTP[0x175f51]: PTX IDLE->TRANSMIT_PERIODIC - Port 1/1/2
 eventMSTP[0x175f5d]: PRX RECEIVE->RECEIVE - Port 1/1/1
```

debug mstp port-level

Syntax: [no] **debug mstp port-level** <*decimal*>

This command displays the information about the hardware level of the port on which the MSTP is running. The port level determines the level of the information. The <*decimal*> variable refers to the level of the port.

```
Brocade# debug mstp port-level 1

Configuration for port-level 1 :
Brocade# debug mstp port-level
  DECIMAL   0 -- print nothing
Brocade# debug mstp port-level 1
Brocade# configure terminal
Brocade(config)# interface ethernet 1/1/1
Brocade(config-if-e1000-1/1/1)# disable
Brocade(config-if-e1000-1/1/1)# enable
Brocade(config-if-e1000-1/1/1)# ^Z
```

debug mstp state

Syntax: [no] **debug mstp state**

This command displays information about the MSTP port state events.

```
Brocade# debug mstp state
MSTP Port State debugging ON
```

debug mstp verbose

Syntax: [no] **debug mstp verbose**

This command displays the MSTP debug information in the verbose mode.

```
Brocade# debug mstp verbose
MSTP debugging set to VERBOSE mode
```

debug mstp show

Syntax: debug mstp show

This command displays the current MSTP debug parameters that are enabled.

```
Brocade# debug mstp show
mstp debug is on because of enabled, level or port-level
level 4
parameters: Brief, StateMachineEvents BpduEvents are being tracked
Ports: All
MSTP instances: 0
```

If this command is enabled, an output similar to the following is displayed.

```
Brocade# debug mstp show
mstp debug is off because enabled=0, level=0 & port-level=0
parameters: Brief, No events being tracked
Ports: ethe 1/1/1
MSTP instances: All
```

DHCP debug commands

These commands are used to debug the various Dynamic Host Configuration Protocol (DHCP) client features.

debug dhcp-client alarms

Syntax: [no] **debug dhcp-client alarms**

This command displays the debugging of the DHCP client on a particular port ID.

```
Brocade# debug dhcp-client alarms
"DHCPC: failed to initialize port; dhcpc unable to continue”
"DHCPC: failed to initialize protocol timer"
"DHCPC: no tftp server address or name found. unable to download configuration
file”
"DHCPC: unable to construct dns request”
"DHCPC: dns failed to resolve tftp server name”
“DHCPC: dns aborted”
“DHCPC: No DHCP Servers  found on any ports”
```

```
"DHCPC: No DHCP Servers  found on any ports"
"DHCPC: setting 0 seconds lease time"
"DHCPC: setting 0 seconds lease time on port <port-id>"
"DHCPC: No DHCP Servers  found on any ports"
"DHCPC: failed to allocate a dhcpc packet on port <port-id>"
"DHCPC: failed to send message on port <port-id>"
"DHCPC: failed to allocate a dhcpc packet on port <port-id>"
"DHCPC: failed to send message on port <port-id> "
"DHCPC: get_an_ip_send_packet () failed on port <port-id>"
```

debug dhcp-client events

Syntax: [no] **debug dhcp-client events**

This command displays information about DHCP client events related to configuration.

```
Brocade# debug dhcp-client events
"DHCPC: failed to delete static ip-address to <ip-address>"
"DHCPC: failed to set the port ip-address to <ip-address>; subnet mask
<ip-address>"
"DHCPC: changing port <port-id> state from REQUEST to BOUND"
"DHCPC: exceeds maximum <some-number> DNS servers"
"DHCPC: added <ip-address> dns-server address"
"DHCPC: failed to set the port ip-address to <ip-address>; subnet mask
<ip-address>"
"DHCPC: TFTP timeout error for bootfile name %s"
"DHCPC: TFTP client busy"
"DHCPC: TFTP error wrong file type"
"DHCPC: TFTP long file name error"
"DHCPC: TFTP vlan-id invalid"
"DHCPC: TFTP flash write errors"
"DHCPC: TFTP error out of buffer space"
"DHCPC: TFTP flash read error"
"DHCPC: TFTP flash preparation for read failed"
"DHCPC: TFTP flash preparation for write failed"
"DHCPC: %s failed to save running-configuration"
"DHCPC: changing protocol from running to stopped"
"DHCPC: changing protocol from stopped to running"
"DHCPC: Auto update in progress, cannot change DHCP client state on port <port-id>
"
"DHCPC: invalid parameter for "
"DHCPC: dhcp_get_next_port() bad port number <port-id>"
"DHCPC: sent DHCP-REQUEST message on port <port-id> \”
"DHCPC: sent DHCP-RENEWING message on port <port-id>”
"DHCPC: sent DHCP-REBINDING message on port <port-id> "
"DHCPC: sent DHCP-RELEASE message on port <port-id> "
"DHCPC: received packet port <port-id>"
"DHCPC: received bad packet port <port-id>, no DHCP END OPT found"
"DHCPC: received offer message on port <port-id>"
"DHCPC: recieved non matching 'xid' (0x%X) in offer message"
"DHCPC: changing port <port-id> state from INIT-SELECTING to INIT-SELECTING"
"DHCPC: changing port <port-id> state from INIT-SELECTING to REQUEST"
"DHCPC: received DHCPCACK message on port <port-id>"
"DHCPC: recieved non matching 'xid'(0x%X) in DHCPCACK message"
"DHCPC: changing timer-event to SEEKING_CONFIGURATION_AND_WAITING_FOR_OFFERS"
"DHCPC: recieved non matching 'xid'(0x%X) in DHCPNAK message"
"DHCPC: deleting existing ip address configuration on port <port-id>"
"DHCPC: received DHCPNAK packet on port <port-id>”
“DHCPC: changing port <port-id> state from REQUEST to INIT-SELECTING”
```

```
“DHCPC: received DHCPCOFFER packet on port <port-id> while in bound state”
"DHCPC: received DHCPCREQUEST packet on port <port-id> while in bound state"
"DHCPC: received DHCPCDECLINE packet on port <port-id> while in bound state"
"DHCPC: received DHCPCACK packet on port <port-id> while in bound state"
"DHCPC: received DHCPCNAK packet on port <port-id> while in bound state"
"DHCPC: received DHCPCRELEASE packet on port <port-id> while in bound state"
"DHCPC: received DHCPCINFORM packet on port <port-id> while in bound state"
"DHCPC: received DHCPCINFORM packet on port <port-id> while in bound state"
"DHCPC: received unknown packet on port <port-id> while in bound state"
"DHCPC: received DHCPACK packet in renewal-state on port <port-id>"
"DHCPC: received non matching 'xid'(0x%X) in RENEWAL message"
"DHCPC: TFTP flash read error"
"DHCPC: changing port <port-id> state from RENEWING to BOUND"
"DHCPC: received non matching 'xid'(0x%X) in DHCPNAK message"
"DHCPC: received DHCPNAK packet in renewal-state on port <port-id>"
"DHCPC: changing port <port-id> state from RENEWING to INIT-SELECTING"
"DHCPC: received DHCPACK packet in rebind-state on port <port-id>"
"DHCPC: received non matching 'xid'(0x%X) in REBIND message"
"DHCPC: changing port <port-id> state from REBINDING to BOUND"
"DHCPC: received non matching 'xid'(0x%X) in DHCPNAK message"
"DHCPC: received DHCPNAK packet in renewal-state on port <port-id>"
"DHCPC: changing port <port-id> state from REBIND to INIT-SELECTING"
"DHCPC: sending packet port <port-id>"
"DHCPC: send completion called on port: <port-id>"
"DHCPC: Freeing packet"
"DHCPC: unable to get <some-number> option from dhcp message from port <port-id>"
"DHCPC: received server id address opton: <ip-address> from port <port-id>"
"DHCPC: received lease-time option: <some-number> from port <port-id>"
"DHCPC: received domain-name option: %s from port <port-id>"
"DHCPC: received dns-server address option: <ip-address> from port <port-id>"
"DHCPC: received default-router address option: <ip-address> from port <port-id>"
"DHCPC: received TFTP server name option: %s from port <port-id>"
"DHCPC: received TFTP server address opton: <ip-address> from port <port-id>"
"DHCPC: received Bootfile name option: %s from port <port-id>"
"DHCPC: received 'hostname' option: %s from port <port-id>"
"DHCPC: received maximum message size option: <some-number> from port <port-id>"
"DHCPC: lease timer events called with invalid port"
"DHCPC: changing port <port-id> state from BOUND to REBINDING"
"DHCPC: changing port <port-id> state from BOUND to RENEWING"
"DHCPC: deleting existing ip address configuration on port <port-id>"
"DHCPC: changing port <port-id> state from REQUESTING to INIT-SELECTING"
"DHCPC: failed to renew ip address with dhcp server; continuing with lease period"
"DHCPC: changing port <port-id> state from REBINDING to INIT_SELECTING"
"DHCPC: changing port <port-id> state from REBINDING to REQUESTING"
```

GVRP debug commands

The GARP VLAN Registration Protocol (GVRP) debugging can be enabled by using the **debug gvrp** command.

debug gvrp packets

Syntax: [no] **debug gvrp packets**

This command enables the debugging of GVRP packets.

```
Brocade# debug gvrp packets
GVRP:  Packets debugging is on
```

```
GVRP: 0x2095ced4: 01 80 c2 00 00 21 00 e0 52 ab 87 40 00 3a 42 42
GVRP: 0x2095cee4: 03 00 01 01 02 00 04 05 00 02 04 05 00 07 04 05
GVRP: 0x2095cef4: 00 09 04 05 00 0b 04 02 03 e9 04 01 03 eb 04 01
GVRP: 0x2095cf04: 03 ec 04 01 03 ef 04 01 03 f1 04 01 05 dd 04 01
GVRP: 0x2095cf14: 09 cb 04 01 0f a1 00 00
GVRP: Port 2/1 RCV
GVRP: 0x2095ced4: 01 80 c2 00 00 21 00 e0 52 ab 87 40 00 28 42 42
GVRP: 0x2095cee4: 03 00 01 01 04 02 03 e9 04 01 03 eb 04 01 03 ec
GVRP: 0x2095cef4: 04 01 03 ef 04 01 03 f1 04 01 05 dd 04 01 09 cb
GVRP: 0x2095cf04: 04 01 0f a1 00 00
GVRP: Port 2/1 TX
GVRP: 0x207651b8: 01 80 c2 00 00 21 00 04 80 2c 0e 20 00 3a 42 42
GVRP: 0x207651c8: 03 00 01 01 02 00 04 05 03 e9 04 05 03 eb 04 05
GVRP: 0x207651d8: 03 ec 04 05 03 ef 04 05 03 f1 04 05 05 dd 04 05
GVRP: 0x207651e8: 09 cb 04 05 0f a1 04 02 00 02 04 01 00 07 04 01
GVRP: 0x207651f8: 00 09 04 01 00 0b 00 00
GVRP: Port 2/1 TX
GVRP: 0x207651b8: 01 80 c2 00 00 21 00 04 80 2c 0e 20 00 18 42 42
GVRP: 0x207651c8: 03 00 01 01 04 02 00 02 04 01 00 07 04 01 00 09
GVRP: 0x207651d8: 04 01 00 0b 00 00
```

MAC address debug commands

debug mac

Syntax: [no] **debug mac**

This command enables the Media Access Control (MAC) address debugging action.

```
Brocade# debug mac
MAC DB:  Action debugging is on
Brocade# clear mac
mac_action_request: done->

MA -     Normal,             ALL_SYST,               FLUSH
  Ports: All Ports
  Vlans: All Vlans
stack: 20B89ED4 2028D708 2028D8A0 201AB040 20C2D58C 20C2EA48 20C2D6DC 20C2EDA4
20C2B2B8 20B8B3A8 2076C3EC 2076C448 20590734 205146FC 20592568 5010 15B4C 1AAD8
Brocade# aging_timer. call mac_action_handler()

MA -     Normal,             ALL_SYST,               FLUSH
  Ports: All Ports
  Vlans: All Vlans
stack: 20B89ED4 2028D708 20C6FAB0 20B894BC 20514924 20590738 205146FC 20592568
5010 15B4C 1AAD8
mac_clear_request(). NO_ACTION, SPECIFIC
stack: 20B89ED4 2028CD28 2028D1F0 20C6FAB4 20B894BC 20514924 20590738 205146FC
20592568 5010 15B4C 1AAD8
```

MCT debug commands

Multi-Chassis Trunking (MCT) provides link-level redundancy and load sharing in addition to increased capacity. If any one of the MCT cluster device fails, the data path remains operational through the other MCT cluster device without any disruption.

debug cluster all

Syntax: [no] **debug cluster all**

This command enables or disables the MCT debugging information log.

If the **debug cluster** is enabled, the output similar to the following is displayed.

```
Brocade# debug cluster all
MCT:: Enabling all debugs
CLUSTER ALL debugging is now ON

Brocade# rstp_txRSTP(T=25364)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25364)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25365, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25384)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25384)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25385, VLAN=20,port=1/7)
port-stp-state=FORWARDING
CCP_PKT(T=25394): Receiving Packet from peer 1.1.1.2
CCP_PKT(T=25394): Packet Info:0100000c000000080003000400000056
CCP_PKT(T=25394): Receiving Packet from peer 1.1.1.2, appId=0
(CCP_APPLICATION_CCP=0;CCP_APPLICATION_CLUSTER_MGR=1)
CCP_PKT(T=25394): Packet Info:0100000c000000080003000400000056
CCP_PKT(T=25394):Processing ccp packet
CCP_PKT(T=25394): Packet Info:0003000400000056
CCP_PKT(T=25394): Handling received keep alive message
CCP_PKT(T=25394): Packet Info:0003000400000056
CLUSTER CCP_FSM(T=25394): Fsm7 got keepalive from 1.1.1.2
CLUSTER CCP:free data buf   allocated packet count      1       buffer 2291f5be
CLUSTER CCP:internal free data buf   allocated packet count  0  bufer 2291f5be
CLUSTER CCP:internal alloc data buf  allocated packet count  1  buffer 2291f5be
CLUSTER CCP:alloc data buf   allocated packet count  1  buffer 2291f5be
rstp_txRSTP(T=25404)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25404)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25405, VLAN=20,port=1/7)
port-stp-state=FORWARDING
CLUSTER CCP_FSM(T=25413): Fsm12 1.1.1.2 sending keepalive
CLUSTER CCP PEER(T=25413): Make keep alive message ->
CCP_PKT(T=25413): Sending Keep Alive message to peer
CCP_PKT(T=25413): Packet Info:0100000c000000080003000400000056
CLUSTER CCP_FSM(T=25413): Fsm11  KeepAlive check for peer 1.1.1.2
rstp_txRSTP(T=25424)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25424)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25425, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25444)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
```

```
rstp_txRSTP(T=25444)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25445, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25464)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25464)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25465, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25484)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25484)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25485, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25504)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25504)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25505, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25524)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25524)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25525, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25544)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25544)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25545, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25564)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25564)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25565, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25584)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25584)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25585, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25604)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25604)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25605, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25624)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25624)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25625, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25644)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25644)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25645, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25664)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25664)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25665, VLAN=20,port=1/7)
port-stp-state=FORWARDING
rstp_txRSTP(T=25684)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
```

```
rstp_txRSTP(T=25684)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
rstputil_mct_handle_incoming_BPDU(T=25685, VLAN=20,port=1/7)
port-stp-state=FORWARDING

Brocade# CCP_PKT(T=25694): Receiving Packet from peer 1.1.1.2
CCP_PKT(T=25694): Packet Info:0100000c000000080003000400000057
CCP_PKT(T=25694): Receiving Packet from peer 1.1.1.2, appId=0
(CCP_APPLICATION_CCP=0;CCP_APPLICATION_CLUSTER_MGR=1)
CCP_PKT(T=25694): Packet Info:0100000c000000080003000400000057
CCP_PKT(T=25694):Processing ccp packet
CCP_PKT(T=25694): Packet Info:0003000400000057
CCP_PKT(T=25694): Handling received keep alive message
CCP_PKT(T=25694): Packet Info:0003000400000057
CLUSTER CCP_FSM(T=25694): Fsm7 got keepalive from 1.1.1.2
CLUSTER CCP:free data buf   allocated packet count      1       buffer 2291f5be
CLUSTER CCP:internal free data buf   allocated packet count  0  bufer 2291f5be
CLUSTER CCP:internal alloc data buf  allocated packet count  1  buffer 2291f5be
CLUSTER CCP:alloc data buf   allocated packet count  1  buffer 2291f5be

Brocade# rstp_txRSTP(T=25704)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25704)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&

Brocade# rstputil_mct_handle_incoming_BPDU(T=25705, VLAN=20,port=1/7)
port-stp-state=FORWARDING
no CLUSTER CCP_FSM(T=25713): Fsm12 1.1.1.2 sending keepalive
CLUSTER CCP PEER(T=25713): Make keep alive message ->
CCP_PKT(T=25713): Sending Keep Alive message to peer
CCP_PKT(T=25713): Packet Info:0100000c000000080003000400000057
debug crstp_txRSTP(T=25724)(vlan=20,port=1/15) Tx on CCEP, MCT peer is superior
rstp_txRSTP(T=25724)(vlan=20,port=1/15) Tx on CCEP while MCT peer is superior and
UP, abandom&
lurstputil_mct_handle_incoming_BPDU(T=25725, VLAN=20,port=1/7)
port-stp-state=FORWARDING
```

If the **debug cluste**r is disabled, the output similar to the following is displayed.

```
Brocade# no debug cluster all

MCT:: disabling all debugs
CLUSTER ALL debugging is now OFF
```

debug cluster config

Syntax: [no] **debug cluster config**

This command enables debugging for any addition or deletion of the clusters, addition or deletion of the clients, or exchange of cluster finite state machine (FSM) messages between the peer and the client isolation mode.

If the **debug cluster configuration** is enabled, the output similar to the following is displayed.

```
Brocade# debug cluster config
CLUSTER Config debugging is now ON
Brocade# config terminal
Brocade# cluster ABC 1
Brocade(config-cluster-ABC)# rbridge-id 200
Brocade(config-cluster-ABC)# session-vlan 100
Brocade(config-cluster-ABC)# icl icl1 ethernet 4/3
```

```
Brocade(config-cluster-ABC)# peer 10.10.10.1 rbridge-id 100 icl icl1
Brocade(config-cluster-ABC)# deploy

============= cluster create ===============
CLUSTER CCP:ccp_internal_create_cluster::Cluster 1 Configured.
Brocade(config-cluster-ABC)# client c1uster
Brocade(config-cluster-ABC-client-c1)# rbridge-id 300
Brocade(config-cluster-ABC-client-c1)# client-interface ethernet 4/13

=========== Client add ======================
clustercu_add_client_interface(cluseter=1,client_name=c1,client_port=4/13)
clustermgr_add_cluster_client_port(cluseter=1,client_name=c1,client_port=4/13,add
)
Brocade(config-cluster-ABC-client-c1)# deploy

==================== FSM Message ====================
clustermgr_send_loading_info_to_peer(cluster=1)(T=121842) >>>>
clustermgr_send_vlanmask_to_peer && clustermgr_send_intf_mac_to_peer
clustermgr_send_loading_info_to_peer(cluster=1)(T=121842) >>>> DONE

================ Client isolation mode config ==============
Brocade(config-cluster-ABC)# client-isolation strict
clustermgr_client_isolation_mode(cluster_id=1,mode=1)
```

If the **debug cluster configuration** is disabled, the output similar to the following is displayed.

```
Brocade# no debug cluster config
CLUSTER Config debugging is now OFF?
```

debug cluster ccp

Syntax: [no] **debug cluster ccp**

This command enables debugging of all the CCP FSM messages, CCP client registrations, CCP packet exchanges from clients, Keepalive messages and notifications, data buffer usage, and specific peer-related message exchanges.

```
Brocade# debug cluster ccp
CLUSTER CCP debugging is on for all

============= Packet Receive ======================
SX_4#CCP_PKT(T=104981): Receiving Packet from peer 10.10.10.2
 CCP_PKT(T=104981): Packet
Info:0100001c000400180009001400010065012c03000000000008000002438
CCP_PKT(T=104981): Receiving Packet from peer 10.10.10.2, appId=4
(CCP_APPLICATION_CCP=0;CCP_APPLICATION_CLUSTER_MGR=1)
 CCP_PKT(T=104981): Packet
Info:0100001c000400180009001400010065012c03000000000008000002438
CCP_PKT(T=104981): Passing packet to app 4 (cluster=1,mac=2,stp=4)
 CCP_PKT(T=104981): Packet
Info:000400180009001400010065012c0300000000008000002438221b1a
================ Packet passed to specific client ====================
ccp_pass_pkt_to_client()(T=104981): cluster id 1, peer ip=168430082, STP msg
CLUSTER CCP: free data buf  allocated packet count  1  buffer 21a215e8
CLUSTER CCP:internal free data buf   allocated packet count  0  bufer 21a215e8
CLUSTER CCP:internal alloc data buf  allocated packet count  1  buffer 21a215e8
CLUSTER CCP:alloc data buf   allocated packet count  1  buffer 21a215e8
CCP_PKT(T=105001): Receiving Packet from peer 10.10.10.2
 CCP_PKT(T=105001): Packet
Info:0100001c000400180009001400010065012c03000000000008000002438
```

```
CCP_PKT(T=105001): Receiving Packet from peer 10.10.10.2, appId=4
(CCP_APPLICATION_CCP=0;CCP_APPLICATION_CLUSTER_MGR=1)
 CCP_PKT(T=105001): Packet
Info:0100001c000400180009001400010065012c03000000000008000002438
CCP_PKT(T=105001): Passing packet to app 4 (cluster=1,mac=2,stp=4)
 CCP_PKT(T=105001): Packet
Info:000400180009001400010065012c03000000000008000002438221b1a
ccp_pass_pkt_to_client()(T=105001): cluster id 1, peer ip=168430082, STP msg
CLUSTER CCP: free data buf  allocated packet count  1  buffer 21a215e8
CLUSTER CCP:internal free data buf   allocated packet count  0  bufer 21a215e8
CLUSTER CCP:internal alloc data buf  allocated packet count  1  buffer 21a215e8
CLUSTER CCP:alloc data buf   allocated packet count  1  buffer 21a215e8
CCP_PKT(T=105021): Receiving Packet from peer 10.10.10.2
 CCP_PKT(T=105021): Packet
Info:0100001c000400180009001400010065012c03000000000008000002438
CCP_PKT(T=105021): Receiving Packet from peer 10.10.10.2, appId=4
(CCP_APPLICATION_CCP=0;CCP_APPLICATION_CLUSTER_MGR=1)
 CCP_PKT(T=105021): Packet
Info:0100001c000400180009001400010065012c03000000000008000002438
CCP_PKT(T=105021): Passing packet to app 4 (cluster=1,mac=2,stp=4)
 CCP_PKT(T=105021): Packet
Info:000400180009001400010065012c03000000000008000002438221b1a
ccp_pass_pkt_to_client()(T=105021): cluster id 1, peer ip=168430082, STP msg
CLUSTER CCP: free data buf  allocated packet count  1  buffer 21a215e8
CLUSTER CCP:internal free data buf   allocated packet count  0  bufer 21a215e8
CLUSTER CCP:internal alloc data buf  allocated packet count  1  buffer 21a215e8
CLUSTER CCP:alloc data buf   allocated packet count  1  buffer 21a215e8
CCP_PKT(T=105041): Receiving Packet from peer 10.10.10.2
 CCP_PKT(T=105041): Packet
Info:0100001c000400180009001400010065012c03000000000008000002438
CCP_PKT(T=105041): Receiving Packet from peer 10.10.10.2, appId=4
(CCP_APPLICATION_CCP=0;CCP_APPLICATION_CLUSTER_MGR=1)
 CCP_PKT(T=105041): Packet
Info:0100001c000400180009001400010065012c03000000000008000002438
CCP_PKT(T=105041): Passing packet to app 4 (cluster=1,mac=2,stp=4)
 CCP_PKT(T=105041): Packet
Info:000400180009001400010065012c03000000000008000002438221b1a
ccp_pass_pkt_to_client()(T=105041): cluster id 1, peer ip=168430082, STP msg
CLUSTER CCP: free data buf  allocated packet count  1  buffer 21a215e8
CLUSTER CCP:internal free data buf   allocated packet count  0  bufer 21a215e8
CLUSTER CCP:internal alloc data buf  allocated packet count  1  buffer 21a215e8
CLUSTER CCP:alloc data buf   allocated packet count  1  buffer 21a215e8

SX_4#CCP_PKT(T=105059): Receiving Packet from peer 10.10.10.2
 CCP_PKT(T=105059): Packet Info:0100000c000000080003000400000015f
CCP_PKT(T=105059): Receiving Packet from peer 10.10.10.2, appId=0
(CCP_APPLICATION_CCP=0;CCP_APPLICATION_CLUSTER_MGR=1)
 CCP_PKT(T=105059): Packet Info:0100000c000000080003000400000015f
CCP_PKT(T=105059):Processing ccp packet
 CCP_PKT(T=105059): Packet Info:000300040000015f
CCP_PKT(T=105059): Not handling keepalive as keepalive_timeout is set.
 CCP_PKT(T=105059): Packet Info:000300040000015f
================= Data buffer usage ============================
CLUSTER CCP:free data buf   allocated packet count      1       buffer 21a215e8
CLUSTER CCP:internal free data buf   allocated packet count  0  bufer 21a215e8
================= Error notifications ==============
CLUSTER CCP PEER(T=105059): Sending Error Notification 49
CCP_PKT(T=105059): Sending Notify message to peer
 CCP_PKT(T=105059): Packet
Info:0100001600000012000100e0000015f00000031000000000000
```

```
CLUSTER CCP:internal alloc data buf  allocated packet count  1  buffer 21a215e8
CLUSTER CCP:alloc data buf   allocated packet count  1  buffer 21a215e8
============== CCP State machine ==============
CLUSTER CCP_FSM(T=105060): Fsm12 10.10.10.2 sending keepalive
CLUSTER CCP PEER(T=105060): Make keep alive message ->
================== Send Keepalive ======================
CCP_PKT(T=105060): Sending Keep Alive message to peer
 CCP_PKT(T=105060): Packet Info:0100000c00000008000300040000160
```

If the **debug cluster ccp** command is disabled, the output similar to the following is displayed.

```
Brocade# no debug cluster ccp
CCP debugging is off for all
```

debug cluster fsm client

Syntax: [no] **debug cluster fsm client** <*client_id*>

This command enables debugging of the MCT cluster FSM for a particular client. Any events that occur in the client such as CCEP Up/Down, remote CCEP Up/Down, or CCP Up/Down, are tracked. The <*client_id*> variable refers to the port number of the client.

```
Brocade# debug cluster fsm client 300
CLUSTER fsm debugging is now ON for client rbridge 300
================== Local CCEP Down ==================

Brocade(config-if-e1000-4/13)# disable
CLUSTER FSM: cluster id 1, client id 300, old state: Up, event: Local Down
CLUSTER FSM: new state: Remote Up, master: FALSE
Brocade(config-if-e1000-4/13)# CLUSTER FSM: Received CCRR message from peer when
CCP is up

Brocade(config-if-e1000-4/13)# enable
================== Local CCEP UP ==================

Brocade(config-if-e1000-4/13)# CLUSTER FSM: cluster id 1, client id 300, old
state: Remote Up, event: Local Up
CLUSTER FSM: new state: Preforwarding Remote Up, master: FALSE
================== Remote CCEP Down ==================
CLUSTER FSM: Received CCRR message from peer when CCP is up
CLUSTER FSM: cluster id 1, client id 300, old state: Preforwarding Remote Up,
event: CCRR Ack Rcvd
CLUSTER FSM: new state: Up, master: FALSE
CLUSTER FSM: Received CCRR message from peer when CCP is up
CLUSTER FSM: cluster id 1, client id 300, old state: Up, event: Remote Down
CLUSTER FSM: Cluster ABC (Id: 1), client c1 (RBridge Id: 300) - Remote client CCEP
down
CLUSTER FSM: new state: Local Up, master: FALSE
================== Remote CCEP UP ==================
CLUSTER FSM: Received CCRR message from peer when CCP is up
CLUSTER FSM: cluster id 1, client id 300, old state: Local Up, event: Remote Up
CLUSTER FSM: Cluster ABC (Id: 1), client c1 (RBridge Id: 300) - Remote client CCEP
up
CLUSTER FSM: new state: Up, master: FALSE
==================== CCP Down ============================
CLUSTER FSM: cluster id 1, peer rbridge id 100, old state: CCP Down, event: CCP
Down
CLUSTER FSM: cluster id 1, peer rbridge id 100, old state: CCP Down, event: CCP
Down
```

```
CLUSTER FSM: cluster id 1, peer rbridge id 100, old state: CCP Down, event: CCP
Down
CLUSTER FSM: cluster id 1, peer rbridge id 100, old state: CCP Down, event: CCP
Down

======================== CCP getting established ==========================
CLUSTER FSM: new state: Loading
CLUSTER FSM: cluster id 1, peer rbridge id 100, old state: Loading, event: CCP Up
CLUSTER FSM: cluster id 1, peer rbridge id 100, old state: Loading, event: CCP Up
CLUSTER FSM: cluster id 1, peer rbridge id 100, old state: Loading, event: CCP Up
CLUSTER FSM: Received Loading-Done message from peer
CLUSTER FSM: cluster id 1, peer rbridge id 100, old state: Loading, event: Loading
Done
CLUSTER FSM: getting EVENT_ID_MCT_CCP_UP event
CLUSTER FSM(T=121842)main: cluster id 1, client id 300, old state: Init, event:
CCP Up
CLUSTER FSM(T=121842)main: new state: Local Deploy, master: FALSE
CLUSTER FSM: new state: CCP Up
CLUSTER FSM: Received CCRR message from peer when CCP is up
CLUSTER FSM: cluster id 1, client id 300, old state: Local Deploy, event: Remote
Deploy
CLUSTER FSM: Cluster ABC (Id: 1), client c1 (RBridge Id: 300) - Remote client
deployed
CLUSTER FSM: new state: Admin Up, master: FALSE
CLUSTER FSM: Received CCRR message from peer when CCP is up
```

If the **debug cluster fsm client** command is disabled, the output similar to the following is displayed.

```
Brocade# no debug cluster fsm client 300
CLUSTER fsm debugging is now OFF for client rbridge 300
```

debug cluster stp

Syntax: [no] **debug cluster stp**

This command enables debugging of STP and RSTP modules. The output details how the STP registers the ICL or CCEP ports. Changes occur while supporting MCT on STP, such as ICL guard, CCEP state sync, STP and CCP messages, and topology change messages are tracked.

```
Brocade# debug cluster stp
CLUSTER STP debugging is now ON

Brocade(config-vlan-101)# spanning-tree 802-1w

STP -> INIT STP for bridge, vlan 101. Port mask 194 201 204 1168 1170 1173 to 1174
2000 2147 to 2149 2154 2157 2185 2187 to 2188 2192 to 2193 2195 to 2196 2201 2205
2368 to 2369 2371 to 2372 2377 2381 2387 to 2389 2394 2397 2425 2427 to 2428

Startup:: In initialize_bridge_spanning_tree::MCT enabled on this VLAN 101

Startup:: In initialize_bridge_spanning_tree:: MCT enabled Clearing ICL port

Searching for ICL and CCEP for this VLAN/STP

stputil_discover_mct:: ICL port is 4/3

Initialize Port 4/3. vlan 101
initialize_port(T=173641): icl-port guard timer cleared on port 4/3, VLAN 101

initialize_port:: Set ICL to FORWARDING. Vlan 101 port 4/3
```

```
Searching for ICL and CCEP for this VLAN/STP

Initialize Port 4/10. vlan 101
initialize_port(T=173641): icl-port guard timer cleared on port 4/10, VLAN 101

initialize_port:: Port is neither ICL/ CCEP of Root Bridge. Set to BLOCKING. Vlan
101 port 4/10

Searching for ICL and CCEP for this VLAN/STP

stputil_discover_mct::This is CCEP port 4/13

Initialize Port 4/13. vlan 101
initialize_port(T=173641): icl-port guard timer cleared on port 4/13, VLAN 101

initialize_port:: Set CCEP or root bridge to FORWARDING. Vlan 101 port 4/13
stputil_mct_send_ccep_state_to_peer(T=173641,vlan=101,port=204,state=FORWARDING)
stputil_mct_send_ccep_state_to_peer(T=173641,vlan=101,port=204,state=FORWARDING)
primary_port 4/13 -->
stputil_mct_send_ccep_state_to_peer(T=173641,vlan=101,port=204,state=FORWARDING)
primary_port 4/13 done

rstp_setup_this_bridge_values:: mct_enable = TRUE

rstputil_mct_enable_port.vlan 101 port 4/3

rstputil_mct_enable_port:: port is trunk

rstputil_mct_enable_port. Per VLAN STP. VLAN 101 Port 4/3 mct_icl_port = TRUE

rstp_enable_port:: VLAN 101 port 4/3. skip_Initialize_RSTP_state_machines = 0.

rstp_enable_port:: PIM state 0. PRT state 0. PTX state 0. TCM state 0. PPM state
0. PST state 0

rstp_enable_port::rstp_role 0 rstp_selectedRole 0 state 5 rstp_infols 0
rstp_initialize_port(T=173641) VLAN101, port 4/3. Port is trunk. primary = 4/3
active stp port = 4/3
 rstp_RoleSelection_State_Machine. set_flag 1 for vlan 101

New root:: vlan 101 INVALID
 rstp_RoleSelection_State_Machine. set_flag 2 for vlan 101

New root:: vlan 101 INVALID

Vlan 101 port 4/3. rstp_selectedRole = RSTP_DESIGNATED_PORT as rstp_infols ==
RSTP_PORT_INFO_STATE_AGED.
 rstp_RoleSelection_State_Machine. set_flag 2 for vlan 101

New root:: vlan 101 INVALID

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/3 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =   FALSE

rstp_port_Role_Transition_State_Machine:: port 4/3 vlan 101 role = 0 selected role
= 3. old PRT state 529 new state 529. Designated_Port_transitions.
rstp_enable_forwarding(T=173641) VLAN101, port 4/3
```

```
rstp_Port_State_Transition_State_Machine_Action: VLAN 101 Port 4/3. ICL port set
to FWD.

rstputil_mct_enable_port.vlan 101 port 4/10
rstp_enable_port:: VLAN 101 port 4/10. skip_Initialize_RSTP_state_machines = 0.

rstp_enable_port:: PIM state 0. PRT state 0. PTX state 0. TCM state 0. PPM state
0. PST state 0

rstp_enable_port::rstp_role 0 rstp_selectedRole 0 state 2 rstp_infols 0
rstp_initialize_port(T=173641) VLAN101, port 4/10. Port is not trunk.
 rstp_RoleSelection_State_Machine. set_flag 2 for vlan 101

New root:: vlan 101 INVALID

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/3 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =   FALSE
 rstp_RoleSelection_State_Machine. set_flag 2 for vlan 101

New root:: vlan 101 INVALID

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/3 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =   FALSE

Vlan 101 port 4/10. rstp_selectedRole = RSTP_DESIGNATED_PORT as rstp_infols ==
RSTP_PORT_INFO_STATE_AGED.
rstp_RoleSelection_State_Machine. set_flag 2 for vlan 101

New root:: vlan 101 INVALID

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/3 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =   FALSE

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/10 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =  FALSE

rstp_port_Role_Transition_State_Machine:: port 4/10 vlan 101 role = 0 selected
role = 3. old PRT state 529 new state 529. Designated_Port_transitions.
rstp_disable_learning(T=173641) VLAN101, port 4/10 BLOCKING

rstp_Port_State_Transition_State_Machine_Action: VLAN 101 Port 4/10 set to
BLOCKING.
rstp_disable_forwarding(T=173641) VLAN101, port 4/10 BLOCKING

rstputil_mct_enable_port.vlan 101 port 4/13

rstputil_mct_enable_port:: port is trunk

rstputil_mct_enable_port. Per VLAN STP. VLAN 101 Port 4/13 CCEP = TRUE

rstputil_mct_enable_port.rstputil_mct_send_rstp_state_reset_to_peer. VLAN 101
Port 4/13 CCEP = TRUE
rstputil_mct_send_stp_state_RESET_to_peer(vlan=173641,port=101) primary_port 4/13
-->
rstputil_mct_send_stp_state_RESET_to_peer(T=173641,vlan=101,port=204)
primary_port 4/13 done

rstp_enable_port:: VLAN 101 port 4/13. skip_Initialize_RSTP_state_machines = 0.
```

```
rstp_enable_port:: PIM state 0. PRT state 0. PTX state 0. TCM state 0. PPM state
0. PST state 0

rstp_enable_port::rstp_role 0 rstp_selectedRole 0 state 5 rstp_infols 0
rstp_initialize_port(T=173641) VLAN101, port 4/13. Port is trunk. primary = 4/13
active stp port = 4/13
 rstp_RoleSelection_State_Machine. set_flag 2 for vlan 101

New root:: vlan 101 INVALID

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/3 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =   FALSE

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/10 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =  FALSE
 rstp_RoleSelection_State_Machine. set_flag 2 for vlan 101

New root:: vlan 101 INVALID

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/3 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =   FALSE

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/10 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =  FALSE

Vlan 101 port 4/13. rstp_selectedRole = RSTP_DESIGNATED_PORT as rstp_infols ==
RSTP_PORT_INFO_STATE_AGED.
 rstp_RoleSelection_State_Machine. set_flag 2 for vlan 101

New root:: vlan 101 INVALID

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/3 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =   FALSE

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/10 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =  FALSE

rstp_compute_port_role_infols_Mine:: vlan 101 port 4/13 rstp_selectedRole =
RSTP_DESIGNATED_PORT.rstp_updtInfo =  FALSE

rstp_port_Role_Transition_State_Machine:: port 4/13 vlan 101 role = 0 selected
role = 3. old PRT state 529 new state 529. Designated_Port_transitions.

rstputil_mct_handle_port_role_transition:: old state = 529, new = 3
(RSTP_DESIGNATED_PORT/RSTP_ROOT_PORT). Send ccep_state_to_peer. VLAN 101 port
4/13
rstputil_mct_send_ccep_state_to_peer(T=173641,vlan=101,port=4/13,role=3)
primary_port 4/13 -->
rstputil_mct_send_ccep_state_to_peer(T=173641,vlan=101,port=4/13,role=3)
primary_port 4/13 done
rstp_disable_learning(T=173641) VLAN101, port 4/13 BLOCKING

rstp_Port_State_Transition_State_Machine_Action: VLAN 101 Port 4/13 set to
BLOCKING.
rstp_disable_forwarding(T=173641) VLAN101, port 4/13 BLOCKING
rstp_txRSTP(T=173641)(vlan=101,port=4/13) Tx on CCEP, MCT peer is inferior -> Tx
BPDU ->
Brocade(config-vlan-101)# rstputil_mct_handle_incoming_BPDU(T=173641,
VLAN=101,port=4/10) port-stp-state=DISCARDING
```

```
rstputil_mct_handle_incoming_BPDU(T=173641, VLAN=101,port=4/10)
port-stp-state=DISCARDING
```

MCT show commands

This section describes the show commands that display the MCT information.

show cluster

Syntax: show cluster

This command displays the complete cluster state information of the ICL peer and client, as shown in the following example.

```
Brocade# show cluster
Cluster abc 1
=============
Rbridge Id: 20, Session Vlan: 3999, Keep-Alive Vlan: 4001
Cluster State: Deploy
Client Isolation Mode: Loose
Configured Member Vlan Range: 100 to 104 200 to 204 300
Active Member Vlan Range: 100 to 104 200 to 204 300

ICL Info:
---------
Name       Port  Trunk
icl1       3/1   129

Peer Info:
----------
Peer IP: 1.1.1.1, Peer Rbridge Id: 100, ICL: icl1
KeepAlive Interval: 30 , Hold Time: 90, Fast Failover
Active Vlan Range:  100 to 104 200 to 204 300 to 310
Peer State: CCP Up (Up Time:   1 days: 3 hr:57 min:33 sec)

Client Info:
------------
Name     Rbridge-id Config    LACP  Port  Trunk FSM-State
c1              300        Deployed  no    3/3     131 Up
c2              301        Deployed  no    3/13    -   Up
```

show cluster ccp client all

Syntax: show cluster <*cluster_name*> | <*cluster_id*> ccp client <*client_ID*>

- <*cluster_name*>—Specifies the cluster name.
- <*cluster_id*>—Specifies the cluster port number.
- <*client_ID*>—Specifies the client port ID.

This command displays the registered CCP clients such as cluster manager, MDUP, or STP.

The following output is displayed when the **show cluster** command is configured with the cluster ID.

```
Brocade# show cluster 3000 ccp client
Client Node Info:
-----------------
  Name: cluster_mgr  ID: 1  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
```

```
Peer IP: 1.1.1.2  Registered Events:  All Events
Client Node Info:
-----------------
  Name: mdup  ID: 2  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP:  All Peers
  Registered Events:  PACKET_RECEIVED
Client Node Info:
-----------------
  Name: stp  ID: 4  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP:  All Peers
  Registered Events:  All Events
Client Node Info:
-----------------
  Name: mcast  ID: 8  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP:  All Peers
  Registered Events:  All Events
Client Node Info:
-----------------
  Name: vrrp  ID: 16  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP:  All Peers
  Registered Events:  All Events
```

The following output is displayed when the **show cluster** command is configured with the cluster name.

```
Brocade# show cluster SX ccp client
Client Node Info:
-----------------
  Name: cluster_mgr  ID: 1  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP: 1.1.1.2  Registered Events:  All Events
Client Node Info:
-----------------
  Name: mdup  ID: 2  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP:  All Peers
  Registered Events:  PACKET_RECEIVED
Client Node Info:
-----------------
  Name: stp  ID: 4  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP:  All Peers
  Registered Events:  All Events
Client Node Info:
-----------------
  Name: mcast  ID: 8  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP:  All Peers
  Registered Events:  All Events
Client Node Info:
-----------------
  Name: vrrp  ID: 16  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP:  All Peers
  Registered Events:  All Events
```

The following output is displayed when the **show cluster** command is configured with the cluster name and the CCP client ID.

```
Brocade# show cluster SX ccp client  1
Client Node Info:
-----------------
  Name: cluster_mgr  ID: 1  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP: 1.1.1.2  Registered Events:  All Events
```

The following output is displayed when the **show cluster** command is configured with the cluster ID and the CCP client ID.

```
Brocade# show cluster 3000 ccp client  1
Client Node Info:
-----------------
  Name: cluster_mgr  ID: 1  Cluster ID: 3000    Number of Peers: 1
Peer Node Info:
Peer IP: 1.1.1.2  Registered Events:  All Events
```

show cluster

Syntax: show cluster <*cluster_name*> **|** <*cluster_id*> **client**

- <*cluster_name*>—Specifies the cluster name.
- <*cluster_id*>—Specifies the cluster port ID.

This command displays all the clients that are configured in a cluster.

The following output is displayed when the **show cluster** command is configured with the cluster ID.

```
Brocade# show cluster 3000 client
Client Info:
------------
Number of Clients Configured: 1
Name   Rbridge-id       Config      LACP  Port  Trunk FSM-State
 R1         100        Deployed      no   1/15    -   Preforwarding
                                                       Remote
```

The following output is displayed when the **show cluster** command is configured with the cluster name.

```
Brocade# show cluster SX client
Client Info:
------------
Number of Clients Configured: 1
Name   Rbridge-id       Config      LACP  Port  Trunk FSM-State
 R1         100        Deployed      no   1/15    -   Preforwarding
                                                       Remote
```

show cluster client

Syntax: show cluster <*cluster_name*> **|** <*cluster_id*> **client** <*client_name*> **|** <*client_RbridgeID*>

- <*cluster_name*>—Specifies the cluster name.
- <*cluster_id*>—Specifies the cluster port ID.
- <*client_name*>—Specifies the client name.
- <*client_RbridgeID*>—Specifies the client Rbridge ID.

This command displays the details of a particular client and its corresponding cluster information.

```
Brocade# show cluster 1 client c1
Cluster abc 1
=============
Rbridge Id: 101, Session Vlan: 3999, Keep-Alive Vlan: 4001
Cluster State: Deploy
Client Isolation Mode: Loose
Configured Member Vlan Range: 100 to 105
Active Member Vlan Range: 100 to 105
MCT Peer's Reachability status using Keep-Alive Vlan: Peer Reacheable

Client Info:
------------
Client: c1, rbridge-id: 300, Deployed
Client Port: 3/3
State: Up
Number of times Local CCEP down: 1
Number of times Remote CCEP down: 0
Number of times Remote Client undeployed: 0
Total CCRR packets sent: 11
Total CCRR packets received: 12
```

show cluster config

Syntax: show cluster config

This command displays only the cluster configuration information.

```
Brocade# show cluster config
cluster abc 1
rbridge-id 20
session-vlan 3999
keep-alive-vlan 4001
icl icl1 ethernet 3/1
peer 1.1.1.1 rbridge-id 100 icl icl1
deploy
client c1
rbridge-id 300
client-interface ethernet 3/3
deploy
client c2
rbridge-id 301
client-interface ethernet 3/13
deploy
```

show cluster ccp peer

Syntax: show cluster ccp peer

This command displays the cluster peer-state configuration information.

```
Brocade# show cluster ccp peer
Cluster Name : abc   Cluster ID: 1
PEER IP ADDRESS          STATE                UP TIME
---------------      -------------           -------------
1.1.1.1                  OPERATIONAL       1 days: 4 hr: 0 min:42 sec
```

show cluster ccp peer detail

Syntax: show cluster ccp peer detail

This command displays the cluster peer session and the TCP connection configuration information.

```
Brocade# show cluster ccp peer detail
**************Peer Session Details*********************
IP address of the peer                          1.1.1.1
Rbridge ID of the peer                          100
Session state of the peer                       OPERATIONAL
Next message ID to be send                      3369
Keep Alive interval in seconds                  30
Hold Time Out in seconds                        90
Fast Failover is enable for the session
UP Time                                          1 days: 4 hr: 3 min:55 sec
Number of  tcp packet allocations failed           0
Message    Init          Keepalive     Notify        Application   Badmessages
Send       9             3932          0             102           0
Receive    9             3932          0             100           0
TCP connection is up
TCP connection is initiated by                  1.1.1.2
TCP connection tcbHandle not pending
TCP connection packets received

**************TCP Connection Details********************
    TCP Connection state: ESTABLISHED      Maximum segment size: 1436
       Local host:  1.1.1.2, Local  Port: 12071
       Remote host: 1.1.1.1, Remote Port: 4175
       ISentSeq:  160671712  SendNext:  160726330  TotUnAck:          0
       TotSent:       54618  ReTrans:           1  UnAckSeq:  160726330
       IRcvSeq:      751804  RcvNext:      806410  SendWnd:       16384
       TotalRcv:      54606  DupliRcv:          0  RcvWnd:        16384
       SendQue:           0  RcvQue:            0  CngstWnd:       1436
```

show mac cluster

Syntax: show mac cluster <*cluster_name*>

This command displays the MAC information of the particular cluster.

```
Brocade# show mac cluster MCT2
Total Cluster Enabled(CL+CR+CCL+CCR) MACs: 4
Total Cluster Local(CL) MACs: 1
Total Cluster Client Macs(CCL+CCR) for all clients: 3
Total Cluster Client Local(CCL) MACs for all clients: 3
CCL: Cluster Client Local CCR:Cluster Client Remote CL:Local CR:Remote
Total active entries from all ports = 15
MAC-Address     Port           Type          Index  MCT-Type VLAN
0001.0000.0014  17/8            Dynamic       53172   CL      4081
748e.f882.1d89  11/17-11/17     Dynamic       24337   CCL     3359
0012.f2a8.9c8f  1/15-1/15       Dynamic       5709    CCL     3203
748e.f882.1d89  11/17-11/17     Dynamic       7199    CCL     3360
```

Packet-capture debug commands

The following **debug packet-capture** command helps to debug packet flows and capture packets designated for the management module for debugging. This command has additional **filter** and **mode** option parameters for refining the traffic sources and the format of the saved data.

debug packet-capture

Syntax: [**no**] **debug packet-capture** [**all** | **count-reset** | **count-show** | **exclude-mgmt-port** | **filter** | **max** | **mode** | **no-limit** | **no-mgmt-port** | **receive** | **send**]

- **all**—Displays the debugging information of the packets transmitted and received.
- **count-reset—**Clears the total packet count of the packets captured.
- **count-show —**Displays the total packet count of the packets captured for debugging.
- **exclude-mgmt-port**—Enables debugging of the packets that are excluded for the management port.
- **filter**—Enables the raw packet filter for debugging.
- **max—**Displays the maximum number of packets.
- **mode**—Displays the various packet modes.
- **no-limit—**Displays the debugging information of an unlimited number of packets.
- **no-mgmt-port—**Toggles the display of packets from the management port.
- **receive**—Debugs only the packets that are received.
- **send**—Debugs only the packets that are transmitted.

The **debug packet-capture** command displays information about packet-capture activity.

debug packet-capture filter

Syntax: [**no**] **debug packet-capture filter** <*filter_index*> <*filter-options*>

- <*filter_index*>—Specifies the filter number. The decimal value ranges from 1 through 20.

- <*filter-options*>—Specifies the filter option. The following are the various options in filter.
  - all—Matches all packet
  - arp—Matches an ARP request or response
  - broadcast-mac—Matches the destination broadcast MAC address (FFFF.FFFF.FFFF)
  - cdp—Matches with the CDP
  - clear—Clears the filter entry
  - clear-counter—Clears the counter
  - cpu-code—Matches the CPU code
  - da—Matches the destination MAC address
  - dhcp—Matches with the DHCP
  - dot1x—Matches the dot1x protocol
  - dpa—Matches the destination IP address
  - dport—Matches the destination protocol port
  - ether-type—Matches the Ethernet type packets
  - fdp—Matches wit h the FDP
  - in-port—Matches the input port
  - l2-802.1w—Matches the 802.1w BPDU
  - l2-lacp—Matches the LACP PDU
  - l2-mstp—Matches the MSTP BPDU
  - l2-stp—Matches the spanning tree BPDU
  - l3-bgp—Matches with the BGP
  - l3-ospf—Matches the OSPF protocol
  - l3-vrrp—Matches the VRRP
  - l3-vrrpe—Matches the VRRP-E
  - lldp—Matches the LLDP
  - mrp—Matches the MRP
  - out-port—Matches the output port
  - priority—Matches the priority
  - protocol—Matches the IP
  - pvst—Matches the PVST protocol
  - sa—Matches the source MAC address
  - snmp—Matches the SNMP
  - spa—Matches the source IP address
  - sport—Matches the source protocol port
  - udld—Matches the UDLD protocol
  - vlan-id—Matches the VLAN ID
  - vsrp—Matches the VSRP

This command enables the filter option for the raw packets. There are 32 filter options that can be configured within a single filter. The filter index limit ranges from 1 through 20.

```
Brocade# debug packet-capture filter 2 protocol
```

debug packet-capture mode

Syntax: [**no**] **debug packet-capture mode** [**brief** | **no-display** | **normal** | **pcap-fmt** [**default** | <*decimal*>]]

- **brief**—Specifies the increment counters and displays the packet summary.
- **no-display**—Specifies the increment counters alone.
- **normal**—Specifies the increment counters and displays the packet header and the first 48 raw bytes.
- **pcap-fmt**—Specifies the increment counters and dumps the packet in pcap (packet capture) hexadecimal format.
- **default**—Specifies the normal mode.
- <*decimal*>—Specifies the first 48 bytes of the packets received.

This command displays the format of the packets to be captured for debugging information.

```
Brocade# debug packet-capture mode
```

debug packet-capture filter show

Syntax: **debug packet-capture filter show** [**all** | <*decimal*>] **none**

This command displays the filter information for the particular filter index. The <*decimal*> variable refers to the number of the packet captured for filter.

Execute the following command to display the complete filter information.

```
Brocade# debug packet-capture filter show all
Filter 1:
        Match STP
Filter 2:
        Match 802.1W
```

Execute the following command to display filter information for a particular filter number.

```
Brocade# debug packet-capture filter show 2
Filter 2:
        Match 802.1W
```

Execute the following command to remove all the filters that are configured.

```
Brocade# debug packet-capture filter none
```

Packet-capture show commands

The current implementation of the **show tech** commands is enhanced to support the following options. Also, currently the page mode option is not supported.

- acl
- cpu
- l2
- l3-IPv4-uc
- l3-IPv6-uc

- memory
- multicast
- packet loss
- stacking

show tech-support

Syntax: show tech-support

This command displays the **show tech** support information.

```
Brocade# show tech-support
Current configuration:
!
ver 07.4.00b1T7f3
!
stack unit 1
  module 1 fcx-48-poe-port-management-module
  module 2 fcx-cx4-2-port-16g-module
!

!
enable snmp config-tacacs
hostname FxRouter
ip route 0.0.0.0 0.0.0.0 172.26.64.1
!
logging console
username brocade password .....
tacacs-server host 172.26.50.95 auth-port 49 default key 1 $d=
tacacs-server host 172.26.50.94 auth-port 49 default key 1 $bn^^s
tacacs-server host 172.26.50.93 auth-port 49 default key 1 $r=?!\!
tacacs-server host ipv6 :: auth-port 49 default key 1 $!66i
tacacs-server key 1 $!66i
snmp-server community ..... ro
snmp-server community ..... rw
snmp-server community ..... rw

interface management 1
 ip address 172.26.67.52 255.255.240.0
!
!
!
end

  Copyright (c) 1996-2011 Brocade Communications Systems, Inc.
    UNIT 1: compiled on Dec 20 2011 at 08:58:01 labeled as FCXR07400b1
       (7155950 bytes) from Secondary FCXR07400b1.bin
        SW: Version 07.4.00b1T7f3
  Boot-Monitor Image size = 369369, Version:07.3.00T7f5 (grz07300b1)
  HW: Stackable FCX648S-HPOE-PREM (PROM-TYPE FCX-ADV-U)
==========================================================================
UNIT 1: SL 1: FCX-48GS POE 48-port Management Module
     Serial  #: BCY2243F04T
     License: FCX_ADV_ROUTER_SOFT_PACKAGE   (LID: deaHHJIhFJv)
     P-ENGINE  0: type DB90, rev 01
     P-ENGINE  1: type DB90, rev 01
     PROM-TYPE: FCX-ADV-U
==========================================================================
```

```
UNIT 1: SL 2: FCX-2XGC 2-port 16G Module (2-CX4)
==============================================================================
  800 MHz Power PC processor 8544E (version 0021/0022) 400 MHz bus
65536 KB flash memory
  256 MB DRAM
Monitor Option is on
STACKID 1  system uptime is 31 minutes 41 seconds
The system : started=warm start reloaded=by "reload"
*** NOT FOR PRODUCTION ***

Port    Link    State   Dupl Speed Trunk Tag Pvid Pri MAC            Name
1/1/1   Down    None    None None  None  No  1    0   0024.38c9.5680
1/1/2   Down    None    None None  None  No  1    0   0024.38c9.5681
1/1/3   Down    None    None None  None  No  1    0   0024.38c9.5682
1/1/4   Down    None    None None  None  No  1    0   0024.38c9.5683
1/1/5   Up      Forward Full 1G    None  No  1    0   0024.38c9.5684
1/1/6   Down    None    None None  None  No  1    0   0024.38c9.5685
1/1/7   Down    None    None None  None  No  1    0   0024.38c9.5686
1/1/8   Down    None    None None  None  No  1    0   0024.38c9.5687
1/1/9   Up      Forward Full 1G    None  No  1    0   0024.38c9.5688
1/1/10  Down    None    None None  None  No  1    0   0024.38c9.5689
1/1/11  Down    None    None None  None  No  1    0   0024.38c9.568a
1/1/12  Down    None    None None  None  No  1    0   0024.38c9.568b
1/1/13  Down    None    None None  None  No  1    0   0024.38c9.568c
1/1/14  Down    None    None None  None  No  1    0   0024.38c9.568d
1/1/15  Down    None    None None  None  No  1    0   0024.38c9.568e
1/1/16  Down    None    None None  None  No  1    0   0024.38c9.568f
1/1/17  Down    None    None None  None  No  1    0   0024.38c9.5690
1/1/18  Down    None    None None  None  No  1    0   0024.38c9.5691
1/2/1   Down    None    None None  None  No  1    0   0024.38c9.56b1
1/2/2   Down    None    None None  None  No  1    0   0024.38c9.56b2
mgmt1   Up      None    Full 1G    None  No  None 0   0024.38c9.5680

Port    Link    State   Dupl Speed Trunk Tag Pvid Pri MAC            Name
1/1/1   Down    None    None None  None  No  1    0   0024.38c9.5680

 Port 1/1/1 Counters:
        InOctets                  0          OutOctets                  0
          InPkts                  0            OutPkts                  0
  InBroadcastPkts                 0    OutBroadcastPkts                 0
  InMulticastPkts                 0    OutMulticastPkts                 0
    InUnicastPkts                 0      OutUnicastPkts                 0
        InBadPkts                 0
      InFragments                 0
       InDiscards                 0          OutErrors                  0
              CRC                 0         Collisions                  0
         InErrors                 0      LateCollisions                 0
      InGiantPkts                 0
      InShortPkts                 0
         InJabber                 0
   InFlowCtrlPkts                 0     OutFlowCtrlPkts                 0
     InBitsPerSec                 0       OutBitsPerSec                 0
     InPktsPerSec                 0       OutPktsPerSec                 0
    InUtilization             0.00%      OutUtilization             0.00%

Port    Link    State   Dupl Speed Trunk Tag Pvid Pri MAC            Name
1/1/2   Down    None    None None  None  No  1    0   0024.38c9.5681

 Port 1/1/2 Counters:
        InOctets                  0          OutOctets                  0
```

```
          InPkts                    0           OutPkts                    0
  InBroadcastPkts                   0    OutBroadcastPkts                  0
  InMulticastPkts                   0    OutMulticastPkts                  0
    InUnicastPkts                   0      OutUnicastPkts                  0
        InBadPkts                   0
       InFragments                  0
        InDiscards                  0          OutErrors                   0
               CRC                  0         Collisions                   0
          InErrors                  0      LateCollisions                  0
       InGiantPkts                  0
       InShortPkts                  0
          InJabber                  0
    InFlowCtrlPkts                  0     OutFlowCtrlPkts                  0
      InBitsPerSec                  0       OutBitsPerSec                  0
      InPktsPerSec                  0       OutPktsPerSec                  0
     InUtilization              0.00%      OutUtilization              0.00%

Port    Link    State   Dupl Speed Trunk Tag Pvid Pri MAC            Name
1/1/3   Down    None    None None  None  No  1    0   0024.38c9.5682

 Port 1/1/3 Counters:
          InOctets                  0          OutOctets                  0
            InPkts                  0            OutPkts                  0
  InBroadcastPkts                   0    OutBroadcastPkts                  0
  InMulticastPkts                   0    OutMulticastPkts                  0
    InUnicastPkts                   0      OutUnicastPkts                  0
        InBadPkts                   0
       InFragments                  0
        InDiscards                  0          OutErrors                   0
               CRC                  0         Collisions                   0
          InErrors                  0      LateCollisions                  0
       InGiantPkts                  0
       InShortPkts                  0
          InJabber                  0
    InFlowCtrlPkts                  0     OutFlowCtrlPkts                  0
      InBitsPerSec                  0       OutBitsPerSec                  0
      InPktsPerSec                  0       OutPktsPerSec                  0
     InUtilization              0.00%      OutUtilization              0.00%

Port    Link    State   Dupl Speed Trunk Tag Pvid Pri MAC            Name
1/1/4   Down    None    None None  None  No  1    0   0024.38c9.5683

 Port mgmt1 Counters:
          InOctets            1774915          OutOctets                192
            InPkts               7658            OutPkts                  3
  InBroadcastPkts                4990    OutBroadcastPkts                  3
  InMulticastPkts                2649    OutMulticastPkts                  0
    InUnicastPkts                  19      OutUnicastPkts                  0
        InBadPkts                   0
       InFragments                  0
        InDiscards                  0          OutErrors                   0
               CRC                  0         Collisions                   0
          InErrors                  0      LateCollisions                  0
       InGiantPkts                  0
       InShortPkts                  0
          InJabber                  0
    InFlowCtrlPkts                  0     OutFlowCtrlPkts                  0
      InBitsPerSec                7160       OutBitsPerSec                  0
      InPktsPerSec                   3       OutPktsPerSec                  0
     InUtilization              0.00%      OutUtilization              0.00%
```

```
Syslog logging: enabled (0 messages dropped, 0 flushes, 0 overruns)
    Buffer logging: level ACDMEINW, 15 messages logged
    level code: A=alert C=critical D=debugging M=emergency E=error
                I=informational N=notification W=warning

Static Log Buffer:
0d00h00m11s:I:System: Stack unit 1 POE  Power supply 1  with 410000 mwatts
capacity is up


Dynamic Log Buffer (50 lines):
0d00h31m23s:W:System:Stack unit 1 Fan speed changed automatically to 2
0d00h28m33s:W:System:Stack unit 1 Fan speed changed automatically to 1
0d00h22m33s:W:System:Stack unit 1 Fan speed changed automatically to 2
0d00h19m33s:W:System:Stack unit 1 Fan speed changed automatically to 1
0d00h13m23s:W:System:Stack unit 1 Fan speed changed automatically to 2
0d00h10m38s:W:System:Stack unit 1 Fan speed changed automatically to 1
0d00h04m38s:W:System:Stack unit 1 Fan speed changed automatically to 2
0d00h01m30s:D:DHCPC: Stopped DHCP Client service
0d00h00m09s:I:System: Interface ethernet 1/1/9, state up
0d00h00m09s:I:System: Interface ethernet 1/1/5, state up
0d00h00m08s:I:System: Interface ethernet mgmt1, state up
0d00h00m05s:D:DHCPC: starting dhcp client service on 51 port(s)
0d00h00m05s:D:DHCPC: Found static IP address 172.26.67.52 subnet mask
255.255.240.0 on port mgmt1
0d00h00m05s:I:System: Warm start
0d00h00m00s:W:System:Stack unit 1 Fan speed changed automatically to 1
real_transition-transit-sw_reset-discards:
0-0-0-0(1/1/1) 0-0-0-0(1/1/2) 0-0-0-0(1/1/3) 0-0-0-0(1/1/4)
1-0-0-0(1/1/5) 0-0-0-0(1/1/6) 0-0-0-0(1/1/7) 0-0-0-0(1/1/8)
1-0-0-0(1/1/9) 0-0-0-0(1/1/10) 0-0-0-0(1/1/11) 0-0-0-0(1/1/12)
0-0-0-0(1/1/13) 0-0-0-0(1/1/14) 0-0-0-0(1/1/15) 0-0-0-0(1/1/16)
0-0-0-0(1/1/17) 0-0-0-0(1/1/18) 0-0-0-0(1/1/19) 0-0-0-0(1/1/20)
0-0-0-0(1/1/21) 0-0-0-0(1/1/22) 0-0-0-0(1/1/23) 0-0-0-0(1/1/24)
0-0-0-0(1/1/25) 0-0-0-0(1/1/26) 0-0-0-0(1/1/27) 0-0-0-0(1/1/28)
0-0-0-0(1/1/29) 0-0-0-0(1/1/30) 0-0-0-0(1/1/31) 0-0-0-0(1/1/32)
0-0-0-0(1/1/33) 0-0-0-0(1/1/34) 0-0-0-0(1/1/35) 0-0-0-0(1/1/36)
0-0-0-0(1/1/37) 0-0-0-0(1/1/38) 0-0-0-0(1/1/39) 0-0-0-0(1/1/40)
0-0-0-0(1/1/41) 0-0-0-0(1/1/42) 0-0-0-0(1/1/43) 0-0-0-0(1/1/44)
0-0-0-0(1/1/45) 0-0-0-0(1/1/46) 0-0-0-0(1/1/47) 0-0-0-0(1/1/48)
0-0-0-0(1/2/1) 0-0-0-0(1/2/2)

Port 1/1/1:  Type : 1G M-C (Gig-Copper)
Port 1/1/2:  Type : 1G M-C (Gig-Copper)
Port 1/1/3:  Type : 1G M-C (Gig-Copper)
Port 1/1/4:  Type : 1G M-C (Gig-Copper)
Port 1/1/5:  Type : 1G M-C (Gig-Copper)
Port 1/1/6:  Type : 1G M-C (Gig-Copper)
Port 1/1/7:  Type : 1G M-C (Gig-Copper)
Port 1/1/8:  Type : 1G M-C (Gig-Copper)
Port 1/1/9:  Type : 1G M-C (Gig-Copper)
Port 1/1/10:  Type : 1G M-C (Gig-Copper)
Port 1/1/11:  Type : 1G M-C (Gig-Copper)
Port 1/1/12:  Type : 1G M-C (Gig-Copper)
Port 1/1/13:  Type : 1G M-C (Gig-Copper)
Port 1/1/14:  Type : 1G M-C (Gig-Copper)
Port 1/1/15:  Type : 1G M-C (Gig-Copper)
Port 1/1/16:  Type : 1G M-C (Gig-Copper)
Port 1/1/17:  Type : 1G M-C (Gig-Copper)
```

```
Port 1/1/18:  Type : 1G M-C (Gig-Copper)
Port 1/1/19:  Type : 1G M-C (Gig-Copper)
Port 1/1/20:  Type : 1G M-C (Gig-Copper)
Port 1/1/21:  Type : 1G M-C (Gig-Copper)
Port 1/1/22:  Type : 1G M-C (Gig-Copper)
Port 1/1/23:  Type : 1G M-C (Gig-Copper)
Port 1/1/24:  Type : 1G M-C (Gig-Copper)
Port 1/1/25:  Type : 1G M-C (Gig-Copper)
Port 1/1/26:  Type : 1G M-C (Gig-Copper)
Port 1/1/27:  Type : 1G M-C (Gig-Copper)
Port 1/1/28:  Type : 1G M-C (Gig-Copper)
Port 1/1/29:  Type : 1G M-C (Gig-Copper)
Port 1/1/30:  Type : 1G M-C (Gig-Copper)
Port 1/1/31:  Type : 1G M-C (Gig-Copper)
Port 1/1/32:  Type : 1G M-C (Gig-Copper)
Port 1/1/33:  Type : 1G M-C (Gig-Copper)
Port 1/1/34:  Type : 1G M-C (Gig-Copper)
Port 1/1/35:  Type : 1G M-C (Gig-Copper)
Port 1/1/36:  Type : 1G M-C (Gig-Copper)
Port 1/1/37:  Type : 1G M-C (Gig-Copper)
Port 1/1/38:  Type : 1G M-C (Gig-Copper)
Port 1/1/39:  Type : 1G M-C (Gig-Copper)
Port 1/1/40:  Type : 1G M-C (Gig-Copper)
Port 1/1/41:  Type : 1G M-C (Gig-Copper)
Port 1/1/42:  Type : 1G M-C (Gig-Copper)
Port 1/1/43:  Type : 1G M-C (Gig-Copper)
Port 1/1/44:  Type : 1G M-C (Gig-Copper)
Port 1/1/45:  Type : 1G M-C (Gig-Copper)
Port 1/1/46:  Type : 1G M-C (Gig-Copper)
Port 1/1/47:  Type : 1G M-C (Gig-Copper)
Port 1/1/48:  Type : 1G M-C (Gig-Copper)

Port 1/2/1:  Type : 10GE CX4 15m (XFP)
Port 1/2/2:  Type : 10GE CX4 15m (XFP)

FastIron Crash Dump Version 3.0.1

Boot    : 07.03.00T7f5 grz07300b1 built on Jul 19 2011 22:21:42 PDT
Monitor : 07.03.00T7f5 grz07300b1 built on Jul 19 2011 22:21:42 PDT
System  : 07.04.00T7f3 FCXR07400b1 built on Dec 20 2011 21:20:24 PST

Task    : main

System had been up for 1 minutes

EXCEPTION 0300, Data Storage Interrupt

GP Registers
r0      : 2021cd1c 247d99e8 21161ec8 247dafff
r4      : 2233802a 7ffff507 247d9a10 00000000
r8      : 247d9a14 247d9a17 00000001 00000001
r12     : fffffff0 21411d20 00000000 00000000
r16     : 00000000 00000000 00000000 00000000
r20     : 00000000 00000000 00000000 00000003
r24     : 00000001 00000000 00000000 00000000
r28     : 247d9bb0 2236f498 211b6957 223379cc

SP Registers
save    = f7f10000
xp..= 046ea100
```

```
thread  = 046ea100
pri     = 00000003
stk     = 247ba000
size    = 00020000
vsid    = 00650065
dear    = 247db000
esr     = 00800000
srr1    = 00000000
msr     = 0202d030
pc      = 21007628
lr      = 2021cd64
sp      = 247d99e8
cr      = 40000800
ctr     = 00000000
xer     = 20000000
wdt     = 00000014
hid0    = 00004000
hid1    = c4003000
mcsr    = 00000000
mcar    = 00000000
usprg   = 00000000
mcsrr0  = 00000000

L2 ECC Registers
fc020e20: 00000000 00000000 00000000 00000000
fc020e30: 00000000 00000000 00000000 00000000
fc020e40: 00000000 00000000 0000001d 00000000
fc020e50: 00000000 00000000 00000000 00000000

DDR ECC Registers
fc002000: 0000001f 00000000 00000000 00000000
fc002080: 80010102 00000000 00000000 00000000
fc002100: 00010000 00260802 39350322 13104cc8
fc002110: e3008000 04401000 000e0432 00000000
fc002120: 00000000 06090100 deadbeef 00000000
fc002e20: 00000000 00000000 00000000 00000000
fc002e30: 00000000 00000000 00000000 00000000
fc002e40: 00000000 00000000 0000000d 00000000
fc002e50: 00000000 00000000 00000000 00000000

Memory Mapped Regions (start: access cache)
2021c000: rwxr-x -----
247d9000: rwxrwx -----
21161000: rwxrwx -----
247da000: rwxrwx -----
22338000: rwxrwx -----
7ffff000: ------ -----
00000000: ------ -----
fffff000: ------ -----
21411000: rwxrwx -----
2236f000: rwxrwx -----
211b6000: rwxrwx -----
22337000: rwxrwx -----
21007000: rwxr-x -----
247db000: rwx--x -----

Possible Stack Trace (function call return address list)
21007628: strncpy(pc)
2021cd64: copy_tftp_flash_all_pri(lr)
2000b0fc: get_combined_license
```

```
30373430:
Stack may be corrupted!

Active Stack (FP 247d99e8)
247d9000: 00000000 00000000 00000000 00000000
247d9010: 00000000 00000000 00000000 00000000
247d9020: 00000000 00000000 247d9040 00000000
247d9030: 00000001 00000000 21422ced 00000073
247d9040: 247d9160 20d17378 00000000 00000000
247d9050: 247d9068 00000000 247d9210 00000000
247d9060: 247d9078 00000073 223e7054 00000000
247d9070: 22ce85a9 00000073 247d9198 20d17378
247d9080: 00000000 00000000 00000000 00000000
247d9090: 00000000 00000000 00000000 00000000
247d90a0: 31310000 00000000 00000000 00000000
247d90b0: 00000000 00000000 00000000 00000000
247d90c0: 00000000 00000000 00000000 08dbe480
247d90d0: 24b97c20 00000001 00000000 00000000
247d90e0: 00000000 08dbe480 00000001 00000008
247d90f0: 247d9358 205678c8 00009108 00007a40
247d9100: 00000001 0000000a 247d9118 00030f70
247d9110: 0000006e 22ce85a0 247d9128 00004040
247d9120: 00000001 08dbe480 24b97c20 00000001
247d9130: 1fff0008 00000000 00000005 00000000
247d9140: 00000001 00000008 247d9358 20568400
247d9150: 247d9190 20abaafc 00000000 00000000
247d9160: 00000000 00000001 247d9190 00000000
247d9170: 247d9198 00000001 1fff0004 248f5361
247d9180: 00000361 001b0800 00000000 00260fdd
247d9190: 247d91c0 00018de4 00000001 08df0c80
247d91a0: 24b96610 00000001 1fff0004 248f5361
247d91b0: 00000361 001b0800 08df0c00 08df0c80
247d91c0: 247d91d0 00004040 00000000 0202d030
247d91d0: 247d91d8 203539dc 247d9338 206ae748
247d91e0: 00000000 00000000 2491ea70 094b0180
247d91f0: 00000000 00000000 00000000 248f80ee
247d9200: 00000000 00000000 00000001 00002868
247d9210: 00000000 00000000 247d9230 20ef8ed0
247d9220: 00000001 00002868 00000000 00000000
247d9230: 247d9260 20edbb64 247d9270 00002868
247d9240: 00000000 248f80ee 00000000 00000001
247d9250: 247d93b0 247d93a8 247d9414 00000000
247d9260: 247d9330 20efbec0 02001fff 08dbe49c
247d9270: 00000000 248f816b 08dbe480 00000000
247d9280: 00000000 228565e8 00000000 00000000
247d9290: 247d92a8 20ef8ed0 00000020 2285658c
247d92a0: 00000000 00000000 00000001 20edbb64
247d92b0: 5ffc1001 40203120 00001080 00003400
247d92c0: 247d92e8 00000001 00002080 248f80ee
247d92d0: 00000000 00000000 247d93b0 247d93a8
247d92e0: 00000000 00260fdd 247d9318 00018de4
247d92f0: 00000000 00000001 00000000 248f80ee
247d9300: 00000000 00000000 247d93b0 247d93a8
247d9310: 247d9368 00000000 00000003 00000004
247d9320: 20589fd8 00000010 00000000 247d9450
247d9330: 00000000 21210000 247d9348 2063287c
247d9340: 00000001 08df0c80 24b96610 00000001
247d9350: 1fff0004 00000000 00000005 08df0c80
247d9360: 1fff0004 08df0c80 247d9798 2057f0e8
247d9370: 00000000 1fff0004 00000004 08df0c90
```

```
247d9380: 08df0c96 00070020 20000004 1fff005a
247d9390: 00000003 1fff0004 20589fa8 00000009
247d93a0: 00000000 ffffffff 08df0c90 ffffffff
247d93b0: 0000005a 00000003 00000001 00000005
247d93c0: 00000000 00000000 00000008 08df0c00
247d93d0: 08db8400 08db8400 0008503f 08db8400
247d93e0: 247d9810 2057f0a4 00000001 0008503f
247d93f0: 0000003f 269ea345 08db8416 05070000
247d9400: 2000003f 00080252 00000000 00080000
247d9410: 00000000 00211fe9 be000000 00000000
247d9420: 01000000 01000001 00000000 00000000
247d9430: 00000000 00000000 00000000 00000000
247d9440: 00000000 00000000 00000000 00000000
247d9450: 00000000 00000000 00000000 00000000
247d9460: 00000000 00000000 00000000 00000000
247d9470: 00000000 00000001 00000000 00000000
247d9480: 00000000 00000000 00000000 00211fe9
247d9490: be000500 00000000 01050000 01000001
247d94a0: 00000900 00000000 01000000 00000000
247d94b0: 05000100 00000000 00000000 00000000
247d94c0: 00000000 00000000 00000000 00000000
247d94d0: 00000000 00000000 247d94f0 00000000
247d94e0: 00064190 00000000 22ce8601 00000064
247d94f0: 247d9610 20d16e74 00010000 00000000
247d9500: 00000000 00000000 00000000 00000000
247d9510: 00000000 00000000 00000000 00000000
247d9520: 00000000 00000000 30303030 31340000
247d9530: 00000000 00000000 00000000 00000000
247d9540: 00000000 00000000 00000000 00000000
247d9550: 247d9570 00000000 247d9568 22ce85a0
247d9560: 0000000a 00000067 0000000a 00000000
247d9570: 247d9580 00007a40 247d9780 0000000a
247d9580: 247d9590 00030f70 00000068 22ce85a0
247d9590: 247d95a0 00004040 247d95b0 0202d030
247d95a0: 0001aaf4 00000000 2705785a 00000058
247d95b0: 247d96d0 20d17378 00009610 0000a1c0
247d95c0: 00000000 00000000 00000001 00064190
247d95d0: 00000001 00000001 00000001 00000000
247d95e0: 00000000 00000000 00000000 00000001
247d95f0: 00000001 00000000 2235e2f4 22ce85a0
247d9600: 22ce85a0 00000000 247d9690 00000068
247d9610: 247d9650 20d19d6c 00000000 00000000
247d9620: 00000000 00000000 00000000 00000001
247d9630: 00000001 00000001 00000001 00000001
247d9640: 2235e2f4 00000068 247d9690 206db338
247d9650: 247d9668 20d19a84 00000001 00000001
247d9660: 00000001 206db338 247d96a8 20d19124
247d9670: 206db338 00064190 00064190 00064100
247d9680: 00000000 00000000 00000000 00000000
247d9690: 00000000 00000000 00000000 00000000
247d96a0: 00000000 00000001 00000000 00000000
247d96b0: 00000000 00000000 2705785a 00000001
247d96c0: 0001aaf4 247d9738 20d35215 2705785a
247d96d0: 247d9710 20d186c0 247d9700 00016888
247d96e0: 00000000 00000000 00000000 00000000
247d96f0: 00000000 00000001 00000001 00000001
247d9700: 27057800 247d9750 20d35218 27057860
247d9710: 247d9750 20d1892c 27057860 20d35218
247d9720: 00000008 00000000 0001aaf4 00000000
247d9730: 00000000 00000000 02003660 247d9758
```

```
247d9740: 247d9718 247d9750 0000000d 27057860
247d9750: 247d9808 20d2e9c8 00004040 20d2e92c
247d9760: 247d9790 20047614 000d6ea0 266ac840
247d9770: 240289e0 000d6eb8 00000001 00000001
247d9780: 00000004 00000000 27057800 00000002
247d9790: 247d97d8 0001f93c 00000000 00000000
247d97a0: 00000000 00000000 00000000 00000000
247d97b0: 247d9808 00000000 00000006 00000004
247d97c0: 20063788 20063660 0001aaf4 00000000
247d97d0: 0000ffff 21250000 247d97e8 0001c880
247d97e0: 247d9808 27057800 00000000 00000001
247d97f0: 00000001 00000001 00000041 247d9821
247d9800: 247d9820 00000001 247d9818 2005f0b4
247d9810: 247d9820 00000001 247d9830 2005f250
247d9820: 213f0000 00000001 0000001e 00000000
247d9830: 247d9840 2005f2a0 0000001e 00000000
247d9840: 247d9f48 2004774c 00000000 00010000
247d9850: 00000000 00000000 00000000 00000000
247d9860: 00000000 00000000 00000000 00000000
247d9870: 00000000 00000000 00000100 00000000
247d9880: 00000000 00000000 00000000 00000000
247d9890: 00000000 00000000 00000000 00000000
247d98a0: 00000000 00000000 00000000 00000000
247d98b0: 00000000 00000000 00000000 00000000
247d98c0: 00000000 00000000 00000000 00000000
247d98d0: 00000000 00000000 00000000 00000000
247d98e0: 00000000 00000000 00000000 00000000
247d98f0: 00000000 00000000 00000000 00000000
247d9900: 00000000 00000000 00000000 00000000
247d9910: 00000000 00000000 00000000 00000000
247d9920: 00000000 00000000 00000000 00000000
247d9930: 00000000 00000000 00000000 00000000
247d9940: 00000000 00000000 00000000 00000000
247d9950: 00000000 00000000 00000000 00000000
247d9960: 00000000 00000000 00000000 00000000
247d9970: 00000000 00000000 00000000 00000000
247d9980: 00000000 00000000 00000000 00000000
247d9990: 00000000 00000000 00000000 00000000
247d99a0: 00000000 00000000 00000000 00000000
247d99b0: 00000000 00000000 00000000 00000000
247d99c0: 00000000 00000000 00000000 00000000
247d99d0: 00000000 00000000 247d99e0 00000000
247d99e0: 247d99e8 2061da70 247d9a98 2021cd1c
247d99f0: 247d9a00 00000000 00000000 00000000
247d9a00: 247d9a10 2000b0fc 00000000 00000000
247d9a10: 46435852 30373430 3062312e 62696e00
247d9a20: 00000000 00000000 00000000 00000000
247d9a30: 00000000 00000000 00000000 00000000
247d9a40: 00000000 00000000 00000000 00000000
247d9a50: 00000000 00000000 00000000 00000000
247d9a60: 00000000 00000000 00000000 00000000
247d9a70: 00000000 00000000 00000000 00000000
247d9a80: 00000000 00000000 00000000 00000000
247d9a90: 00000000 00000000 00000000 00000000
247d9aa0: 00000000 00000000 00000000 00000000
247d9ab0: 00000000 00000000 00000000 00000000
247d9ac0: 00000000 00000000 00000000 00000000
247d9ad0: 00000000 00000000 00000000 00000000
247d9ae0: 00000000 00000000 00000000 00000000
247d9af0: 00000000 00000000 00000000 00000000
```

```
247d9b00: 00000000 00000000 00000000 00000000
247d9b10: 00000000 00000000 00000000 00000000
247d9b20: 00000000 00000000 00000000 00000000
247d9b30: 00000000 00000000 00000000 00000000
247d9b40: 00000000 00000000 00000000 00000000
247d9b50: 00000000 00000000 00000000 00000000
247d9b60: 00000000 00000000 00000000 00000000
247d9b70: 00000000 00000000 00000000 00000000
247d9b80: 00000000 00000000 00000000 00000000
247d9b90: 00000000 00000000 00000000 00000000
247d9ba0: 00000000 00000000 00000000 00000000
247d9bb0: 00000000 00000000 00000000 00000000
247d9bc0: 00000000 00000000 00000000 00000000
247d9bd0: 00000000 00000000 00000000 00000000
247d9be0: 00000000 00000000 00000000 00000000
247d9bf0: 00000000 00000000 00000000 00000000
247d9c00: 00000000 00000000 00000000 00000000
247d9c10: 00000000 00000000 00000000 00000000
247d9c20: 00000000 00000000 00000000 00000000
247d9c30: 00000000 00000000 00000000 00000000
247d9c40: 00000000 00000000 00000000 00000000
247d9c50: 00000000 00000000 00000000 00000000
247d9c60: 00000000 00000000 00000000 00000000
247d9c70: 00000000 00000000 00000000 00000000
247d9c80: 00000000 00000000 00000000 00000000
247d9c90: 00000000 00000000 00000000 00000000
247d9ca0: 00000000 00000000 00000000 00000000
247d9cb0: 00000000 00000000 00000000 00000000
247d9cc0: 00000000 00000000 00000000 00000000
247d9cd0: 00000000 00000000 00000000 00000000
247d9ce0: 00000000 00000000 00000000 00000000
247d9cf0: 00000000 00000000 00000000 00000000
247d9d00: 00000000 00000000 00000000 00000000
247d9d10: 00000000 00000000 00000000 00000000
247d9d20: 00000000 00000000 00000000 00000000
247d9d30: 00000000 00000000 00000000 00000000
247d9d40: 00000000 00000000 00000000 00000000
247d9d50: 00000000 00000000 00000000 00000000
247d9d60: 00000000 00000000 00000000 00000000
247d9d70: 00000000 00000000 00000000 00000000
247d9d80: 00000000 00000000 00000000 00000000
247d9d90: 00000000 00000000 00000000 00000000
247d9da0: 00000000 00000000 00000000 00000000
247d9db0: 00000000 00000000 00000000 00000000
247d9dc0: 00000000 00000000 00000000 00000000
247d9dd0: 00000000 00000000 00000000 00000000
247d9de0: 00000000 00000000 00000000 00000000
247d9df0: 00000000 00000000 00000000 00000000
247d9e00: 00000000 00000000 00000000 00000000
247d9e10: 00000000 00000000 00000000 00000000
247d9e20: 00000000 00000000 00000000 00000000
247d9e30: 00000000 00000000 00000000 00000000
247d9e40: 00000000 00000000 00000000 00000000
247d9e50: 00000000 00000000 00000000 00000000
247d9e60: 00000000 00000000 00000000 00000000
247d9e70: 00000000 00000000 00000000 00000000
247d9e80: 00000000 00000000 00000000 00000000
247d9e90: 00000000 00000000 00000000 00000000
247d9ea0: 00000000 00000000 00000000 00000000
247d9eb0: 00000000 00000000 00000000 00000000
```

```
247d9ec0: 00000000 00000000 00000000 00000000
247d9ed0: 00000000 00000000 00000000 00000000
247d9ee0: 00000000 00000000 00000000 00000000
247d9ef0: 00000000 00000000 00000000 00000000
247d9f00: 00000000 00000000 00000000 00000000
247d9f10: 00000000 00000000 00000000 00000000
247d9f20: 00000000 00000000 00000000 00000000
247d9f30: 00000000 00000000 00000000 00000000
247d9f40: 00000000 00000000 00000000 00000000
247d9f50: 00000000 00000000 00000000 00000000
247d9f60: 00000000 00000000 00000000 00000000
247d9f70: 00000000 00000000 00000000 00000000
247d9f80: 00000000 00000000 00000000 00000000
247d9f90: 00000000 00000000 00000000 00000000
247d9fa0: 00000000 00000000 00000000 00000000
247d9fb0: 00000000 00000000 00000000 00000000
247d9fc0: 00000000 00000000 00000000 00000000
247d9fd0: 00000000 00000000 00000000 00000000
247d9fe0: 00000000 00000000 00000000 00000000
247d9ff0: 00000000 00000000 00000000 00000000

Application Data(last packet)
dsa: 002f1001 0005e01f
00000000: 00000000 50100ffb 00000000 00400000
00000004: ffffffff ffff0024 381cb900 08060001
00000008: 08000604 00010024 381cb900 ac1a4001
0000000c: 00000000 0000ac1a 40bcaaaa aaaaaaaa
00000010: aaaa0000 00000000 00000000 00000000

Possible Data Structures
2021ccd0: 38e0000e 48abea4d 83e1000c 80010014
          7c0803a6 38210010 4e800020 00000000
          00000000 00000000 00000000 00000000
          9421ff50 7c0802a6 93c100a8 93e100ac
2021cd10: 900100b4 7c7f1b78 48400d49 2c030000
          41820014 3c60211c 80635590 48afc395
          480000fc 38610028 48dea769 7c651b78
          38610028 38800000 48dea43d 38610028
247d99a0: 00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 247d99e0 00000000
247d99e0: 247d99e8 2061da70 247d9a98 2021cd1c
          247d9a00 00000000 00000000 00000000
          247d9a10 2000b0fc 00000000 00000000
          46435852 30373430 3062312e 62696e00
21161e80: 00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
21161ec0: 00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
247dafb0: 00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
247daff0: 00000000 00000000 00000000 00000000
          00000019 00000000 00000000 00000000
```

```
           00000000 00000000 00000000 00000000
           247db020 247db020 24000250 000d6f1c
22337fe0:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000020 dde7c020 dde7c020 dde7c020
           dde7c000 00000000 00000146 43585230
22338020:  37343030 62312e62 696e0000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
247d99d0:  00000000 00000000 247d99e0 00000000
           247d99e8 2061da70 247d9a98 2021cd1c
           247d9a00 00000000 00000000 00000000
           247d9a10 2000b0fc 00000000 00000000
247d9a10:  46435852 30373430 3062312e 62696e00
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
21411ce0:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
21411d20:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
247d9b70:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
247d9bb0:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
2236f450:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
2236f490:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000001 00000001 00000000
211b6910:  2020eeb8 201f1db8 00000000 201d2500
           00000000 00200000 00201e0c a0201f1d
           d0211b68 da2021cb 60000000 00008000
           0000201f 1df4201f 1e000000 00002021
211b6950:  ad600000 00000000 00000020 1ee2a420
           1f1da400 00000020 21cd0000 00000000
           00000000 201f1df4 201f1e00 00000000
           2021ce60 00000000 00000000 00201f1e
22337980:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
223379c0:  00000000 00000000 00000000 00000000
           00000000 00000000 00000022 35e35800
           00000000 00000100 00005722 35e37f21
           1b695721 1b702d21 1b695700 00000000
21007620:  34a5ffff 9ce30002 98e30001 4082fff4
           48000014 38a5ffff 35850001 38840001
```

```
           4082ffa0 38660000 4e800020 88a30000
           2c050000 41820038 38630001 38e40000
247d9040:  247d9160 20d17378 00000000 00000000
           247d9068 00000000 247d9210 00000000
           247d9078 00000073 223e7054 00000000
           22ce85a9 00000073 247d9198 20d17378
21422ce0:  65722073 7570706c 79203120 20776974
           68203431 30303030 206d7761 74747320
           63617061 63697479 20697320 75702020
           006d676d 74312000 00000000 00000000
247d9160:  00000000 00000001 247d9190 00000000
           247d9198 00000001 1fff0004 248f5361
           00000361 001b0800 00000000 00260fdd
           247d91c0 00018de4 00000001 08df0c80
20d17370:  7ea5ab78 4bffeead 7c761b78 56cc063e
           7fde6214 57eb063e 2c0b006a 4181003c
           41820444 2c0b0050 4181001c 41820474
           2c0b0049 41820458 2c0b004a 41820430
247d9060:  247d9078 00000073 223e7054 00000000
           22ce85a9 00000073 247d9198 20d17378
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
247d9210:  00000000 00000000 247d9230 20ef8ed0
           00000001 00002868 00000000 00000000
           247d9260 20edbb64 247d9270 00002868
           00000000 248f80ee 00000000 00000001
247d9070:  22ce85a9 00000073 247d9198 20d17378
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           31310000 00000000 00000000 00000000
223e7050:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000001 00000001
           00000000 00000000 00000000 00000000
22ce85a0:  000a0074 68692300 20534855 54444f57
           4e204953 204f4646 2e20504c 45415345
           20414354 49564154 45205749 54482061
           75746f2d 73687574 646f776e 202a2a2a
247d9190:  247d91c0 00018de4 00000001 08df0c80
           24b96610 00000001 1fff0004 248f5361
           00000361 001b0800 08df0c00 08df0c80
           247d91d0 00004040 00000000 0202d030
08dbe480:  2e36352e 31313b31 37322e32 362e3634
           2e303b31 36392e32 35342e39 352e3132
           303b3136 392e3235 342e3935 2e300000
           00000000 00000000 00000000 00000000
24b97c20:  24ba7a84 00000000 19010000 00000000
           00000000 00000000 10080083 00000806
           02000000 01000000 00000000 00000000
           00000000 00000000 00000000 00000000
247d9350:  1fff0004 00000000 00000005 08df0c80
           1fff0004 08df0c80 247d9798 2057f0e8
           00000000 1fff0004 00000004 08df0c90
           08df0c96 00070020 20000004 1fff005a
205678c0:  7fe3fb78 4bfff2bd 547d063e 2c1c0000
           41820078 3d802162 818c2b60 1d7a0083
           7d8c5a14 88ac0049 3c602058 38637b84
           38810008 57a6043e 487b3a89 4800004c
00009100:  814a1928 915a015e 3d80000d 898c1a36
           919a0162 7f43d378 38800166 4bfffd95
```

```
           bb410008 80010024 7c0803a6 38210020
           4e800020 9421ffe8 7c0802a6 93a1000c
00007a40:  83c10008 83e1000c 80010014 7c0803a6
           38210010 4e800020 9421ffe8 7c0802a6
           93810008 93a1000c 93c10010 93e10014
           9001001c 7c7f1b78 7c9e2378 4800ddb5
247d9110:  0000006e 22ce85a0 247d9128 00004040
           00000001 08dbe480 24b97c20 00000001
           1fff0008 00000000 00000005 00000000
           00000001 00000008 247d9358 20568400
00030f70:  48000008 7fe3fb78 83c10008 83e1000c
           80010014 7c0803a6 38210010 4e800020
           9421fff0 7c0802a6 93e1000c 90010014
           7c7f1b78 7fe3fb78 4bff20f9 4bfe4915
247d9120:  00000001 08dbe480 24b97c20 00000001
           1fff0008 00000000 00000005 00000000
           00000001 00000008 247d9358 20568400
           247d9190 20abaafc 00000000 00000000
00004040:  81810014 8161000c 38210010 7d9a03a6
           7d7b03a6 4c000064 38000000 7c1f0ba6
           48009975 38a00028 7ca32bd6 7cb60ba6
           3c600440 7c7453a6 3c600040 38600064
20568400:  5463043e 48000020 3d80211d 398ccce2
           57cb13ba 7c8c582e 7fe3fb78 4bfff545
           5463043e bb6101fc 80010214 7c0803a6
           38210210 4e800020 00000000 00000000
20abaaf0:  3b800000 3b800001 4837ee49 7c03e000
           41800060 7fcc0774 2c0c0000 41820054
           3881000c 38a1001c 38c10008 38e10010
           39010014 39210018 7f83e378 4837ec35
248f5360:  c000c0c0 c0c0c0c0 c0c0c0c0 c0c0c0c0
           c0c0c0c0 c0c0c0c0 c0c0c0c0 c0c0c0c0
           c0c0c0c0 c0c0c0c0 c0c0c0c0 c0c0c0c0
           c0c0c0c0 c0c0c0c0 c0c0c0c0 c0c0c0c0
247d91c0:  247d91d0 00004040 00000000 0202d030
           247d91d8 203539dc 247d9338 206ae748
           00000000 00000000 2491ea70 094b0180
           00000000 00000000 00000000 248f80ee
00018de0:  48004a91 7c7d1b78 2c1d0000 4082000c
           38600002 480001a8 819d0038 2c0cffff
           40820090 819d003c 3d600008 816bf3ac
           816b0040 7c0c5800 41820010 3b000000
08df0c80:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
24b96610:  24ba6c64 00000000 19010000 00000000
           00000000 00000000 10080083 00000406
           02000000 01000000 00000000 00000000
           00000000 00000000 00000000 00000000
08df0c00:  00000000 50100ffb 00000000 00400000
           ffffffff ffff0024 381cb900 08060001
           08000604 00010024 381cb900 ac1a4001
           00000000 0000ac1a 40bcaaaa aaaaaaaa
247d91d0:  247d91d8 203539dc 247d9338 206ae748
           00000000 00000000 2491ea70 094b0180
           00000000 00000000 00000000 248f80ee
           00000000 00000000 00000001 00002868
203539d0:  80631e4c 38800000 48c87f89 8001000c
           7c0803a6 38210008 4e800020 00000000
```

```
          00000000 00000000 00000000 00000000
          9421ffe0 7c0802a6 bf61000c 90010024
247d9330: 00000000 21210000 247d9348 2063287c
          00000001 08df0c80 24b96610 00000001
          1fff0004 00000000 00000005 08df0c80
          1fff0004 08df0c80 247d9798 2057f0e8
206ae740: b169c094 4bca527d bb410148 80010164
          7c0803a6 38210160 4e800020 00000000
          9421fff8 7c0802a6 9001000c 8001000c
          7c0803a6 38210008 4e800020 00000000
2491ea70: 094b01a0 2491ea88 00000000 094b1cf0
          211fe9be 00000000 094b01b0 2491eaa0
          00000000 094b1cf8 211fe9be 00000000
          094b01c0 2491eab8 00000000 094b1d00
094b0180: 00000000 00000c00 00000000 90014b09
          00000000 00000800 00000000 a0014b09
          00000000 00003400 00000000 b0014b09
          00000000 00000c00 00000000 c0014b09
248f80e0: 30000001 f4000000 00000000 88002491
          e8002491 b4c02491 ea882491 ea880000
          00240000 00240024 91ec0024 91b50024
          91ec0024 91ec0000 00002400 00002400
247d9230: 247d9260 20edbb64 247d9270 00002868
          00000000 248f80ee 00000000 00000001
          247d93b0 247d93a8 247d9414 00000000
          247d9330 20efbec0 02001fff 08dbe49c
20ef8ed0: 38600000 83a1000c 83c10010 83e10014
          8001001c 7c0803a6 38210018 4e800020
          00000000 00000000 00000000 00000000
          9421ffd8 7c0802a6 bf21000c 9001002c
247d9260: 247d9330 20efbec0 02001fff 08dbe49c
          00000000 248f816b 08dbe480 00000000
          00000000 228565e8 00000000 00000000
          247d92a8 20ef8ed0 00000020 2285658c
20edbb60: 4e800021 7c7b1b78 3d802120 898cb6fd
          2c0c0000 41820038 57e3063e 38a10008
          7fa4eb78 4b814c3d 7c781b78 80e10008
          3c6020ee 3863e174 57e4063e 7fa6eb78
247d9270: 00000000 248f816b 08dbe480 00000000
          00000000 228565e8 00000000 00000000
          247d92a8 20ef8ed0 00000020 2285658c
          00000000 00000000 00000001 20edbb64
247d93b0: 0000005a 00000003 00000001 00000005
          00000000 00000000 00000008 08df0c00
          08db8400 08db8400 0008503f 08db8400
          247d9810 2057f0a4 00000001 0008503f
247d93a0: 00000000 ffffffff 08df0c90 ffffffff
          0000005a 00000003 00000001 00000005
          00000000 00000000 00000008 08df0c00
          08db8400 08db8400 0008503f 08db8400
247d9410: 00000000 00211fe9 be000000 00000000
          01000000 01000001 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
20efbec0: 7c771b78 2c170000 41820038 3d802285
          398c65fc 56cb063e 1d6b0018 7d8c5a14
          91810040 81410040 81210040 81290000
          39290001 912a0000 7ee3bb78 48000064
08dbe490: 2e303b31 36392e32 35342e39 352e3132
          303b3136 392e3235 342e3935 2e300000
```

```
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
248f8160:  e8000000 00240000 00240024 92ec0024
           91b60024 92edb024 92edb000 00002400
           00002400 24930000 2491b640 24930000
           24930000 00000024 00000024 00249304
228565e0:  00000000 00000000 0000002d 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
247d92a0:  00000000 00000000 00000001 20edbb64
           5ffc1001 40203120 00001080 00003400
           247d92e8 00000001 00002080 248f80ee
           00000000 00000000 247d93b0 247d93a8
22856580:  00000000 00000000 00000000 00000087
           00000087 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
247d92e0:  00000000 00260fdd 247d9318 00018de4
           00000000 00000001 00000000 248f80ee
           00000000 00000000 247d93b0 247d93a8
           247d9368 00000000 00000003 00000004
247d9310:  247d9368 00000000 00000003 00000004
           20589fd8 00000010 00000000 247d9450
           00000000 21210000 247d9348 2063287c
           00000001 08df0c80 24b96610 00000001
247d9360:  1fff0004 08df0c80 247d9798 2057f0e8
           00000000 1fff0004 00000004 08df0c90
           08df0c96 00070020 20000004 1fff005a
           00000003 1fff0004 20589fa8 00000009
20589fd0:  656e640a 00000000 45786974 696e6720
           70705f63 70755f74 72616e73 6d69745f
           7061636b 65742e2e 2e776974 68204452
           4f500a00 646d6100 51756575 65202575
247d9450:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000001 00000000 00000000
           00000000 00000000 00000000 00211fe9
21210000:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
247d9340:  00000001 08df0c80 24b96610 00000001
           1fff0004 00000000 00000005 08df0c80
           1fff0004 08df0c80 247d9798 2057f0e8
           00000000 1fff0004 00000004 08df0c90
20632870:  7c7f1b78 7fe3fb78 4807bb89 83e1000c
           80010014 7c0803a6 38210010 4e800020
           00000000 00000000 00000000 00000000
           9421fff8 7c0802a6 9001000c 3d802287
247d9790:  247d97d8 0001f93c 00000000 00000000
           00000000 00000000 00000000 00000000
           247d9808 00000000 00000006 00000004
           20063788 20063660 0001aaf4 00000000
2057f0e0:  38800004 4879a11d 3d602162 8941001e
           994b08c3 b9c103e8 80010434 7c0803a6
           38210430 4e800020 00000000 00000000
           00000000 00000000 00000000 00000000
08df0c90:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
```

```
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
00070020: 2c1f0004 40810030 3d80000f 398c9de8
          7d8cf8ae 2c0c0024 4082001c 3d80000f
          398c9de8 39600000 7d6cf9ae 38600001
          48000008 38600000 83e1000c 80010014
20000000: 9421fff0 7c0802a6 93e1000c 90010014
          3be00000 2c1f0014 4080002c 3d802133
          398c614c 57eb103a 7d8c582e 2c0c0000
          4082000c 38600000 48000010 3bff0001
20589fa0: 61696c65 640a0000 45786974 696e6720
          70705f63 70755f74 72616e73 6d69745f
          7061636b 65742e2e 2e207769 74682073
          656e640a 00000000 45786974 696e6720
08db8400: 00000000 50100ffb 00000000 042e0000
          ffffffff ffff001e c93cb67c 08004500
          041c1452 00008011 382cac1a 421fac1a
          4fff4000 40000408 ab1f0000 000e7361
00085030: 0008504e 00085012 f5e80000 00f4ffff
          ffff0000 00010000 00000008 6fb40008
          506c0008 5030f5ea 000000f5 ffffffff
          00000001 00000000 00086fb4 0008508a
247d9810: 247d9820 00000001 247d9830 2005f250
          213f0000 00000001 0000001e 00000000
          247d9840 2005f2a0 0000001e 00000000
          247d9f48 2004774c 00000000 00010000
2057f0a0: 4879a161 3d602162 8941001e 994b08c3
          48000044 7fe3fb78 480afdc9 3d802121
          3d602121 816bfad4 396b0001 916cfad4
          480ac191 3ca02059 38a59fd8 38600003
269ea340: 00000000 00820008 0a020000 ff000100
          00ff1000 0400ffff 00000505 0000012c
          00000000 269f9900 26a21100 26a1d100
          26a29100 26a2d100 00ffffff 00000000
08db8410: ffffffff ffff001e c93cb67c 08004500
          041c1452 00008011 382cac1a 421fac1a
          4fff4000 40000408 ab1f0000 000e7361
          75700000 00297732 6b382d73 70323b34
20000030: 4082000c 38600000 48000010 3bff0001
          4bffffd4 38600001 83e1000c 80010014
          7c0803a6 38210010 4e800020 00000000
          9421ffe0 7c0802a6 bf61000c 90010024
00080250: 41525400 5f5f4441 54415f45 4e44005f
          5f637479 7065005f 5f72616e 645f7365
          65640073 72616e64 005f5f63 6f6d5f70
          72696e74 005f5f73 5f696e69 745f7374
00080000: 65697665 5f706163 6b657400 74656c6e
          65745f72 65636569 76655f62 79746500
          74656c6e 65745f72 65636569 76655f62
          75666665 72007465 6c6e6574 5f707574
01000000: 00000000 004b0301 00000000 00000000
          00000000 0a0a0a0a 7072696d 61727900
          79006269 6e00bcd8 041abcd0 00035400
          041abce0 00000000 041abce8 041abd4c
247d94f0: 247d9610 20d16e74 00010000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
          00000000 00000000 30303030 31340000
00064190: 3d801234 618ceeee 919f0000 38600000
          83a1000c 83c10010 83e10014 8001001c
```

```
           7c0803a6 38210018 4e800020 9421fff0
           7c0802a6 93c10008 93e1000c 90010014
22ce8600:  20343130 3030300a 00757020 200a0067
           6d743120 0a000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
247d9610:  247d9650 20d19d6c 00000000 00000000
           00000000 00000000 00000000 00000001
           00000001 00000001 00000001 00000001
           2235e2f4 00000068 247d9690 206db338
20d16e70:  4bfff471 7c761b78 56cc063e 7fde6214
           48000020 7fc3f378 7fa4eb78 7ea5ab78
           4bfff391 7c761b78 56cc063e 7fde6214
           89810008 2c0c0000 41820040 3d802137
00010000:  7c7f1b78 3d800008 398cf1c4 57eb103a
           7c6c582e 83e1000c 80010014 7c0803a6
           38210010 4e800020 9421fff0 7c0802a6
           93c10008 93e1000c 90010014 7c7f1b78
247d9570:  247d9580 00007a40 247d9780 0000000a
           247d9590 00030f70 00000068 22ce85a0
           247d95a0 00004040 247d95b0 0202d030
           0001aaf4 00000000 2705785a 00000058
247d9560:  0000000a 00000067 0000000a 00000000
           247d9580 00007a40 247d9780 0000000a
           247d9590 00030f70 00000068 22ce85a0
           247d95a0 00004040 247d95b0 0202d030
247d9580:  247d9590 00030f70 00000068 22ce85a0
           247d95a0 00004040 247d95b0 0202d030
           0001aaf4 00000000 2705785a 00000058
           247d96d0 20d17378 00009610 0000a1c0
247d9780:  00000004 00000000 27057800 00000002
           247d97d8 0001f93c 00000000 00000000
           00000000 00000000 00000000 00000000
           247d9808 00000000 00000006 00000004
247d9590:  247d95a0 00004040 247d95b0 0202d030
           0001aaf4 00000000 2705785a 00000058
           247d96d0 20d17378 00009610 0000a1c0
           00000000 00000000 00000001 00064190
247d95a0:  0001aaf4 00000000 2705785a 00000058
           247d96d0 20d17378 00009610 0000a1c0
           00000000 00000000 00000001 00064190
           00000001 00000001 00000001 00000000
2235e2f0:  00000000 00000000 00000000 00000000
           00000000 00000000 00000000 00000000
           00000000 00000004 00000003 00000003
           00000029 00000000 00000000 00000000
247d9690:  00000000 00000000 00000000 00000000
           00000000 00000001 00000000 00000000
           00000000 00000000 2705785a 00000001
           0001aaf4 247d9738 20d35215 2705785a
247d9650:  247d9668 20d19a84 00000001 00000001
           00000001 206db338 247d96a8 20d19124
           206db338 00064190 00064190 00064100
           00000000 00000000 00000000 00000000
20d19d60:  7fe4fb78 38a00000 480000f9 7c7f1b78
           3d402137 3d2022cf 392985a0 912a820c
           7fe3fb78 ba61000c 80010044 7c0803a6
           38210040 4e800020 00000000 00000000
206db330:  2025640a 00000000 506f4520 496e666f
           3a204164 64696e67 206e6577 20353456
```

```
          20636170 61636974 79206f66 20256420
          6d572c20 746f7461 6c206361 70616369
247d9660: 00000001 206db338 247d96a8 20d19124
          206db338 00064190 00064190 00064100
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
20d19a80: 48000041 7c7d1b78 3d202137 39800000
          998981fc 7fa3eb78 83810008 83a1000c
          83c10010 83e10014 8001001c 7c0803a6
          38210018 4e800020 00000000 00000000
247d96a0: 00000000 00000001 00000000 00000000
          00000000 00000000 2705785a 00000001
          0001aaf4 247d9738 20d35215 2705785a
          247d9710 20d186c0 247d9700 00016888
20d19120: 48000881 7c7e1b78 7fc3f378 83c10038
          83e1003c 80010044 7c0803a6 38210040
          4e800020 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
00064100: 818cb7d8 2c0c0000 41820054 3d800009
          818cb7d4 7c0cf840 40820034 3c600006
          3863552c 4bfcd3e5 480003e5 480000dd
          3d601234 616beeee 917f0000 3c600009
247d9a00: 247d9a10 2000b0fc 00000000 00000000
          46435852 30373430 3062312e 62696e00
          00000000 00000000 00000000 00000000
          00000000 00000000 00000000 00000000
2000b0f0: 3be00000 38600000 48ff7f49 7c7f1b78
          3d402162 814a2b4d 7fe35378 83e1000c
          80010014 7c0803a6 38210010 4e800020
          9421fff0 7c0802a6 93c10008 93e1000c
GADDR        =   21622b94Dram Buf     =       4320
AVAIL_B      =        320USED_B       =       4000
CPU_R        =       5445Buf Msgs     =          0
SNOOP_TX     =         53SNOOP_DP     =        256
GET_B        =       9648FREE_B       =       5648
Sw_Mode      =          0New_Addr     =          4
NA_Learn     =          4NA_Age       =          3
NA_Update    =          0NA_Hash_Full =          0
NA_Hash_Del  =          0 SFLOW_sample =          0
Buf_G_Msgs   =          0Buf_F_Msgs   =          0
Buf_Count    =          0
CPU_XR[TC0-3 [323][0][0][0]
CPU_XR[TC4-7 [91][5029][0][2]
FxRouter#
```

show tech-support l2

Syntax: show tech-support l2

This command provides Layer 2 and Layer 3 information apart from the other **show tech-support** command output.

```
Brocade# show tech-support l2
VLAN Brief Summary Information :

System-max vlan Params: Max(4095) Default(64) Current(64)
Default vlan Id :1
Total Number of Vlan Configured :34
VLANs Configured :1 to 2 10 to 19 21 to 40 50 900
```

```
Private VLAN Information :
------------------------
Primary VLAN   10
 Port 1/1/7 1/1/8 1/1/9 1/1/10

Primary VLAN   30
 Port 1/1/1 1/1/2 1/1/3 1/1/4 1/1/5 1/1/6 1/1/7 1/1/8 1/1/9 1/1/20 1/1/31 1/1/32
1/1/33 1/1/34 1/1/35 1/1/36 1/1/37 1/1/38 1/1/39 1/1/40 1/1/41 1/1/42 1/1/43
1/1/44 1/1/45

Primary VLAN   40
 Port 1/1/1 1/1/2 1/1/3 1/1/4 1/1/5 1/1/6 1/1/7 1/1/8 1/1/9 1/1/20 1/1/31 1/1/32
1/1/33 1/1/34 1/1/35 1/1/36 1/1/37 1/1/38 1/1/39 1/1/40 1/1/41 1/1/42 1/1/43
1/1/44 1/1/45

Primary VLAN   50
 Port 1/1/31 1/1/32 1/1/33 1/1/34 1/1/35

Primary VLAN  900
 Port 1/1/31 1/1/32 1/1/33 1/1/34 1/1/35 1/1/36 1/1/37 1/1/38

Spanning Tree Information :
--------------------------
STP instance owned by topology-group 1, Master VLAN 1

Global RSTP (IEEE 802.1W/D3) Parameters:

VLAN Root             Root Root   Prio Max He- Ho- Fwd Last    Chg Bridge
 ID   ID              Cost Port   rity Age llo ld  dly Chang   cnt Address
                                  Hex  sec sec sec sec sec
   1 8000002438c94fc0 0    Root   8000 20  2   1   15  6947    1   002438c94fc0

Port STP Parameters:
--------------------
Port   Prio Path  State       Fwd    Design  Designated       Designated
Num    rity Cost              Trans  Cost    Root             Bridge
       Hex
1/1/28 80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/29 80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/46 80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/47 80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/48 80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/2/1  80   2     FORWARDING  2      0       8000002438c94fc0 8000002438c94fc0
1/2/2  80   2     FORWARDING  2      0       8000002438c94fc0 8000002438c94fc0
2/1/1  80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/2  80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/3  80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/4  80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/5  80   0     DISABLED    0      0       0000000000000000 0000000000000000


Spanning-tree is not configured on port-vlan 2

STP instance owned by VLAN 10

Global STP (IEEE 802.1D) Parameters:
-----------------------------------
VLAN Root             Root Root   Prio Max He- Ho- Fwd Last    Chg Bridge
 ID   ID              Cost Port   rity Age llo ld  dly Chang   cnt Address
                                  Hex  sec sec sec sec sec
```

```
  10 8000002438c94fc0 0    Root   8000 20  2   1   15  7077    0   002438c94fc0

Port STP Parameters:
-------------------
Port   Prio Path  State       Fwd    Design  Designated       Designated
Num    rity Cost              Trans  Cost    Root             Bridge
       Hex
1/1/7  80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/8  80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/9  80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/10 80   0     DISABLED    0      0       0000000000000000 0000000000000000

802.1W Spanning Tree Information :
---------------------------------
IEEE 802-1w is not configured on port-vlan 1

--- VLAN 2 [ STP Instance owned by VLAN 2 ] ---------------------------

Bridge IEEE 802.1W Parameters:
-----------------------------
Bridge           Bridge Bridge Bridge Force    tx
Identifier       MaxAge Hello  FwdDly Version  Hold
hex              sec    sec    sec             cnt
8000002438c94fc0 20     2      15     Default  3

RootBridge       RootPath  DesignatedBri-   Root   Max Fwd Hel
Identifier       Cost      dge Identifier   Port   Age Dly lo
hex                        hex                      sec sec sec
8000002438c94fc0 0         8000002438c94fc0 Root   20  15  2

Port IEEE 802.1W Parameters:
---------------------------
       <--- Config Params --><-------------- Current state ----------------->
Port   Pri PortPath P2P Edge Role       State       Designa-  Designated
Num        Cost     Mac Port                        ted cost  bridge
1/1/6  128 0        F   F    DISABLED   DISABLED    0         0000000000000000

IEEE 802-1w is not configured on port-vlan 10

--- VLAN 11 [ STP Instance owned by VLAN 11 ] --------------------------

Bridge IEEE 802.1W Parameters:
-----------------------------
Bridge           Bridge Bridge Bridge Force    tx
Identifier       MaxAge Hello  FwdDly Version  Hold
hex              sec    sec    sec             cnt
8000002438c94fc0 20     2      15     Default  3

RootBridge       RootPath  DesignatedBri-   Root   Max Fwd Hel
Identifier       Cost      dge Identifier   Port   Age Dly lo
hex                        hex                      sec sec sec
8000002438c94fc0 0         8000002438c94fc0 Root   20  15  2

Port IEEE 802.1W Parameters:
---------------------------
       <--- Config Params --><-------------- Current state ----------------->
Port   Pri PortPath P2P Edge Role       State       Designa-  Designated
Num        Cost     Mac Port                        ted cost  bridge
1/1/11 128 0        F   F    DISABLED   DISABLED    0         0000000000000000
```

```
--- VLAN 12 [ STP Instance owned by VLAN 12 ] ----------------------------

Bridge IEEE 802.1W Parameters:
------------------------------
Bridge           Bridge Bridge Bridge Force    tx
Identifier       MaxAge Hello  FwdDly Version  Hold
hex              sec    sec    sec             cnt
8000002438c94fc0 20     2      15     Default  3

RootBridge       RootPath  DesignatedBri-   Root   Max Fwd Hel
Identifier       Cost      dge Identifier   Port   Age Dly lo
hex                        hex                     sec sec sec
8000002438c94fc0 0         8000002438c94fc0 Root   20  15  2

PVST+ Information :
PVST+ Enabled on:
Port      Method
1/1/10    Set by configuration
1/1/11    Set by configuration
1/1/20    Set by configuration
1/1/21    Set by configuration
1/1/30    Set by configuration
1/1/31    Set by configuration

BPDU GAURD and STP Root Protection :
-----------------------------------
BPDU Guard Enabled on:
Ports: (U1/M1)   1   2   3   4   5   6   7   8   9  12

VLAN Topology Group Information :
Topology Group 1
=================
 master-vlan 1
 member-vlan none

 Common control ports           L2 protocol
 ethernet 1/1/20                STP
 ethernet 1/1/28                STP
 ethernet 1/1/29                STP
 ethernet 1/1/46                STP
 ethernet 1/1/47                STP
 ethernet 1/1/48                STP
 ethernet 1/2/1                 STP
 ethernet 1/2/2                 STP
 ethernet 2/1/1                 STP
 ethernet 2/1/2                 STP
 ethernet 2/1/3                 STP
Topology Group 2
=================
 master-vlan 31
 member-vlan 32 to 34

 Common control ports           L2 protocol
 ethernet 1/1/31                MRP
 ethernet 1/1/32                MRP
 ethernet 1/1/33                MRP
 ethernet 1/1/34                MRP
 ethernet 1/1/35                MRP
 ethernet 1/1/36                MRP
 ethernet 1/1/1                  Vlan 31
```

```
 ethernet 1/1/2                  Vlan 31
 ethernet 1/1/3                  Vlan 31
 ethernet 1/1/4                  Vlan 31
 ethernet 1/1/5                  Vlan 31
 ethernet 1/1/6                  Vlan 31
 ethernet 1/1/7                  Vlan 31
 ethernet 1/1/8                  Vlan 31
 ethernet 1/1/9                  Vlan 31
 ethernet 1/1/37                 Vlan 31

Topology Group 3
================
 master-vlan 35
 member-vlan 36 to 38

 Common control ports           L2 protocol
 ethernet 1/1/1                 VSRP
 ethernet 1/1/2                 VSRP
 ethernet 1/1/3                 VSRP
 ethernet 1/1/4                 VSRP
 ethernet 1/1/5                 VSRP
 ethernet 1/1/6                 VSRP
 ethernet 1/1/7                 VSRP


Trunk Status Information :
--------------------------
Configured trunks:
Trunk ID: 31
Hw Trunk ID: 1
Ports_Configured: 5
Primary Port Monitored: Jointly

Ports         1/1/31  1/1/32  1/1/33  1/1/34  1/1/35
Port Names    none    none    none    none    none
Port_Status   enable  enable  enable  enable  enable
Monitor       off     off     off     off     off
Rx Mirr Port  N/A     N/A     N/A     N/A     N/A
Tx Mirr Port  N/A     N/A     N/A     N/A     N/A
Monitor Dir   N/A     N/A     N/A     N/A     N/A

Operational trunks:
Trunk ID: 31
Hw Trunk ID: 1
Duplex: None
Speed: None
Tag: Yes
Priority: level0
Active Ports: 0

Ports         1/1/31  1/1/32  1/1/33  1/1/34  1/1/35
Link_Status   down    down    down    down    down
port_state    Blocked Blocked Blocked Blocked Blocked


Link Aggregation Config Information :
Long  timeout: 120, default: 120
Short timeout: 3, default: 3
Port  [Sys P] [Port P] [  Key ] [Act][Tio][Agg][Syn][Col][Dis][Def][Exp][Ope]
1/1/1       1        1    10000   Yes   S   Agg  Syn  Col  Dis  Def  No   Dwn
```

```
1/1/2       1        1    10000   Yes   S   Agg  Syn  Col  Dis  Def  No   Dwn
1/1/3       1        1    10000   Yes   S   Agg  Syn  Col  Dis  Def  No   Ina
1/1/4       1        1    10000   Yes   S   Agg  Syn  Col  Dis  Def  No   Ina


Mac table Information :
----------------------
Total active entries from all ports = 30
MAC-Address      Port            Type          Index
748e.f811.6300  1/1/1            Dynamic       3588
0024.382c.d700  1/1/3            Dynamic       1466
0030.6e8a.e801  1/1/4            Dynamic       11398
e41f.13b9.3612  1/1/4            Dynamic       14856
e41f.1367.438c  1/1/5            Dynamic       6074
000c.29f7.d55a  1/1/6            Dynamic       7650

Dot1x Port Security Information :
PAE Capability                 : Authenticator Only
system-auth-control            : Enable
re-authentication              : Disable
global-filter-strict-security  : Enable
quiet-period                   : 60 Seconds
tx-period                      : 30 Seconds
supptimeout                    : 30 Seconds
servertimeout                  : 30 Seconds
maxreq                         : 2
reAuthMax                      : 2
re-authperiod                  : 3600 Seconds
Protocol Version               : 1

Mac Security Information :
-------------------------
Port    Security Violation Shutdown-Time Age-Time  Max-MAC
------- -------- --------- ------------- --------- -------
1/1/1   disabled  shutdown     permanent permanent       1
1/1/2   disabled  shutdown     permanent permanent       1
1/1/3   disabled  shutdown     permanent permanent       1
1/1/4   disabled  shutdown     permanent permanent       1
1/1/5   disabled  shutdown     permanent permanent       1
1/1/6   disabled  shutdown     permanent permanent       1
1/1/7   disabled  shutdown     permanent permanent       1
1/1/8   disabled  shutdown     permanent permanent       1
1/1/9   disabled  shutdown     permanent permanent       1
1/1/10  disabled  shutdown     permanent permanent       1
1/1/11  disabled  shutdown     permanent permanent       1
1/1/12  disabled  shutdown     permanent permanent       1

port security statistics
Unit/Module 1/1:
  Total ports: 0
  Total MAC address(es): 0
  Total violations: 0
  Total shutdown ports 0
Unit/Module 1/2:
  Total ports: 0
  Total MAC address(es): 0
  Total violations: 0
  Total shutdown ports 0

MRP Information :
```

```
----------------
Total MRP entries configured = 2

Metro Ring 1
=============
Ring       State      Ring       Master     Topo       Hello      Prefwing
id                    role       vlan       group      time(ms)   time(ms)
1          disabled   member     30         not conf   100        300

Ring interfaces Interface role Forwarding state Active interface interface type
ethernet 1/1/1  primary        disabled         none             regular
ethernet 1/1/5  secondary      disabled         none             regular

RHPs sent            RHPs rcvd            TC RBPDUs rcvd       State changes
0                    0                    0                    0

Metro Ring 2
=============
Ring       State      Ring       Master     Topo       Hello      Prefwing
id                    role       vlan       group      time(ms)   time(ms)
2          enabled    member     31         2          100        300

Ring interfaces Interface role Forwarding state Active interface interface type
ethernet 1/1/31 primary        disabled         none             regular
ethernet 1/1/36 secondary      disabled         none             regular

RHPs sent            RHPs rcvd            TC RBPDUs rcvd       State changes
0                    0                    0                    2

VSRP Information:
-----------------
Total number of VSRP routers defined: 1
VLAN 35
 auth-type no authentication
 VRID 1
 ========
  State      Administrative-status Advertise-backup Preempt-mode save-current
  master     enabled               disabled         true         false

  Parameter        Configured Current    Unit/Formula
  priority         100        5          (100-0)*(1.0/20.0)
  hello-interval   1          1          sec/1
  dead-interval    3          3          sec/1
  hold-interval    3          3          sec/1
  initial-ttl      2          2          hops

  next hello sent in 00:00:00.9
  Member ports:      ethe 1/1/1 to 1/1/9 ethe 1/1/31 to 1/1/45
  Operational ports: ethe 1/1/4
  Forwarding ports:  ethe 1/1/4
  Restart ports:     None
```

show tech-support memory

Syntax: show tech-support memory

This command displays the memory information of the device.

```
Brocade# show tech-support memory
MEMORY Related Information :
```

```
Stack unit 1:
  Total DRAM: 268435456 bytes
  Dynamic memory: 196669440 bytes total, 130510848 bytes free, 33% used

FLASH Related Information :
Stack unit 1:
  Compressed Pri Code size = 7091393,
  Compressed Sec Code size = 7063608,
  Compressed Boot-Monitor Image size = 369292, Version:07.1.00T7f5
  Code Flash Free Space = 50462720

DM-Memory Related Information  :
memory tracking has run 00:00:00
malloc 0 times, 0 B, free: # 0 , 0 B, not in: 0
                     alloc in-use  avail get-fail    limit  get-mem  size init
mem-ptr pool           200      0    200        0    10000        0    12  200
stack pool             100      0    100        0     1000        0    64  100
mem-ptr hash: size=0, anch=503, pool: s=503, use=0, fail=0
stack hash: size=0, anch=209, pool: s=209, use=0, fail=0
```

show tech-support cpu

Syntax: show tech-support cpu

This command displays CPU usage and CPU utilization information.

```
Brocade# show tech-support cpu
CPU Usage Information.
4 percent busy, from 1931 sec ago
1   sec avg:  1 percent busy
5   sec avg:  1 percent busy
60  sec avg:  1 percent busy
300 sec avg:  1 percent busy

CPU Utilization information.(5 -Times)
idle pid 0 id 1 cpu 102738 usage                    0
main pid 1 id 1 cpu 102738 usage                   21
flash pid 0 id 1 cpu 102738 usage                   0
loop cnt: 168752871 168752871 -> 0
read cnt: 67897 67897 -> 0
loop rate = 0/1 = 0
rcode = 100 - (100*0/2300) = 100
99/100 busy, from 0 sec ago

CPU(per process) usage  Information.
Process Name   5Sec(%)   1Min(%)   5Min(%)   15Min(%)   Runtime(ms)
ARP              0.01      0.01      0.02      0.02           1639
BGP              0.00      0.00      0.00      0.00              0
DOT1X            0.00      0.00      0.00      0.00              0
GVRP             0.00      0.00      0.00      0.00              0
ICMP             0.00      0.00      0.00      0.00            519
IP               0.00      0.00      0.00      0.00            489
OSPF             0.00      0.00      0.00      0.00              0
RIP              0.00      0.00      0.00      0.00              2
STP              0.01      0.01      0.01      0.01           1078
VRRP             0.00      0.00      0.00      0.00            392
Process Name   5Sec(%)   1Min(%)   5Min(%)   15Min(%)   Runtime(ms)
IPv6             0.01      0.01      0.01      0.01           1053
ICMP6            0.01      0.02      0.02      0.02           1723
```

```
ND6              0.00      0.00      0.00      0.00              7
RIPng            0.00      0.00      0.00      0.00              4
OSPFv3           0.00      0.00      0.00      0.00              0
IPV6_RX          0.00      0.00      0.00      0.00              0
```

show tech-support stacking

Syntax: show tech-support stacking

This command displays the information from the **show stacking**, **show stack IPC**, and **show stack port statistics** commands.

```
Brocade# show tech-support stacking
ID   Type         Role    Mac Address    Pri State   Comment
1  S FCX648S      member  0020.2222.7700   0 remote  Ready
2  S FCX624S      active  0200.2222.0200 128 local   Ready
3  S FCX624S      standby 0200.2222.5018 128 remote  Ready
4  S FCX624S      member  0200.0022.0000   0 remote  Ready
                 standby      active
     +---+        +---+        +---+        +---+
     | 4 |2/2--2/1| 3 |2/2--2/1| 2 |2/2--2/1| 1 |
     +---+        +---+        +---+        +---+

Standby u3 - protocols ready, can failover or manually switch over
Current stack management MAC is 0200.2222.0200
Note: no "stack mac" config. My MAC will change after failover.
       Stack Port Status                              Neighbors
Unit#  Stack-port1         Stack-port2           Stack-port1          Stack-port2
1      up (1/2/1)              none                unit2 (2/2/2)        none
2      up (2/2/1)             up (2/2/2)           unit3 (3/2/2)        unit1
(1/2/1)
3      up (3/2/1)             up (3/2/2)           unit4 (4/2/2)        unit2
(2/2/1)
4      none                   up (4/2/2)             none             unit3
(3/2/1)
Unit# System uptime
1     9 hours 55 minutes 4 seconds
2     9 hours 55 minutes 4 seconds
3     9 hours 55 minutes 4 seconds
4     9 hours 55 minutes 4 seconds

Stack Resource:
                alloc in-use  avail get-fail    limit  get-mem  size init
register attribute     2400   2351     49        0   556800     3120   334 2400
general 12B data         32      5     27        0     7424        5    12   32
RB-tree node           4096   2355   1741        0   237568     2710    18 1024
variable length link   3113      4   3109        0   722216        4     8 3113
AU msg dev0            4092      0   4092        0    16368        5    16 4092
REL-IPC :
Unit 1 statistics:
Msgs sent: 34847  Msgs received: 9140, Pkt sends failed: 0
Message types sent:
    [9]=14769,        [10]=19968,       [11]=2,           [13]=108,
Message types received:
    [9]=9127,         [10]=3,           [13]=10,
Session statistics: base-channel, unit 1, channel 0:
Session state: established (last established 10 hours 6 seconds ago)
Connections established: 1
Remote resets: 0, Reset packets sent: 0
Connection statistics (for current connection, if established):
```

```
Msgs sent: 10275, Msgs received: 9127
Atomic batches sent: 0, Atomic batches received: 0
Pkts sent: 20035, Pkts received: 18953
Msg bytes sent: 1292505, Msg bytes received: 809548
Pkt bytes sent: 1847500, Pkt bytes received: 1073716
Flushes requested: 58, Suspends: 0, Resumes: 0
Packets sent with data (DAT), ACKs, and window updates (WND):
Other: 9, ACK: 9124, WND: 286, ACK+WND: 0
DAT: 10614, DAT+ACK: 2, DAT+WND: 0, DAT+ACK+WND: 0
Data retransmits done: 1164, Zero-window probes sent: 0
Dup ACK pkts rcvd: 382, Pkts rcvd w/dup data: 0
Pkts rcvd w/data past window: 0

Session statistics: ACL, unit 1, channel 3:
Session state: established (last established 10 hours 6 seconds ago)
Connections established: 1
Remote resets: 0, Reset packets sent: 0
Connection statistics (for current connection, if established):
Msgs sent: 4496, Msgs received: 0
Atomic batches sent: 0, Atomic batches received: 0
Pkts sent: 4751, Pkts received: 4667
Msg bytes sent: 395648, Msg bytes received: 0
Pkt bytes sent: 494012, Pkt bytes received: 56004
Flushes requested: 0, Suspends: 0, Resumes: 0
Packets sent with data (DAT), ACKs, and window updates (WND):
Other: 1, ACK: 0, WND: 0, ACK+WND: 0
DAT: 4750, DAT+ACK: 0, DAT+WND: 0, DAT+ACK+WND: 0
Data retransmits done: 254, Zero-window probes sent: 0
Dup ACK pkts rcvd: 171, Pkts rcvd w/dup data: 0
Pkts rcvd w/data past window: 0

Session statistics: rconsole-server-to-1, unit 1, channel 5:
Session state: established (last established 10 hours 4 seconds ago)
Connections established: 1
Remote resets: 0, Reset packets sent: 0
Connection statistics (for current connection, if established):
Msgs sent: 94, Msgs received: 2
Atomic batches sent: 0, Atomic batches received: 0
Pkts sent: 91, Pkts received: 93
Msg bytes sent: 15451, Msg bytes received: 20
Pkt bytes sent: 17440, Pkt bytes received: 1312
Flushes requested: 72, Suspends: 0, Resumes: 0
Packets sent with data (DAT), ACKs, and window updates (WND):
Other: 7, ACK: 1, WND: 0, ACK+WND: 0
DAT: 83, DAT+ACK: 0, DAT+WND: 0, DAT+ACK+WND: 0
Data retransmits done: 11, Zero-window probes sent: 0
Dup ACK pkts rcvd: 14, Pkts rcvd w/dup data: 0
Pkts rcvd w/data past window: 0

Stack Port Statistics:
Port            In Packets          Out Packets       In Errors      Out Errors
1/2/1                    0                    0               0               0
1/2/2                    0                    0               0               0
2/2/1          24703759305               736749               0               0
2/2/2          10874142581          10891730630               0               0
3/2/1             24685721            9760277389               0               0
3/2/2               718201          2194754
```

show tech-support packet-loss

Syntax: show tech-support packet-loss

This command displays the packet statistics information that helps in debugging packet loss scenarios.

```
Brocade# show tech-support packet-loss
Total Tx statistics :
---------------------
PP total Tx stats since last read: First read contains counters from previous
setting.
Total Ucast = 8, Total Bcast = 14, Total Mcast = 8, Cntl pkt=10634
Total Bridge Egress Filtered = 0, Total Congestion Drops = 0, Fwd restriction=0

Port Statistics.
----------------
Port            In Packets          Out Packets       In Errors      Out Errors
1/1/1                    0                    0               0               0
1/1/2                    0                    0               0               0
1/1/3                15040                15230               0               0
1/1/4                22325                12399               0               0
1/1/5                    0                    0               0               0
1/1/6                    0                    0               0               0
1/1/7                    0                    0               0               0
1/1/8                    0                    0               0               0
1/1/9                    0                    0               0               0
1/1/10                   0                    0               0               0
1/1/11                   0                    0               0               0
1/1/12                   0                    0               0               0
1/1/13                   0                    0               0               0
1/1/14                   0                    0               0               0
1/1/15                   0                    0               0               0
1/1/16                   0                    0               0               0
1/1/17                   0                    0               0               0
1/1/18                   0                    0               0               0
1/1/19                   0                    0               0               0
1/1/20                   0                    0               0               0
1/1/21                   0                    0               0               0
1/1/22                   0                    0               0               0
1/1/23                   0                    0               0               0
1/1/24                   0                    0               0               0
1/1/25                   0                    0               0               0
1/1/26                   0                    0               0               0
1/1/27                   0                    0               0               0
1/1/28                   0                    0               0               0
1/1/29                   0                    0               0               0
1/1/30                   0                    0               0               0
```

show tech-support acl

Syntax: show tech-support acl

This command displays ACL configuration and ACL counters.

```
Brocade# show tech-support acl
ACL Config Information.
ipv6 access-list bvs: 52 entries
Standard IP access list 1  (hw usage : 2)
permit any  (hw usage : 1)
```

```
Standard IP access list 2  (hw usage : 2)
permit any  (hw usage : 1)

Standard IP access list 3  (hw usage : 2)
permit any  (hw usage : 1)

Standard IP access list 4  (hw usage : 2)
permit any  (hw usage : 1)

Standard IP access list 5  (hw usage : 2)
permit any  (hw usage : 1)

Extended IP access list 101  (hw usage : 3)
permit tcp any any  (hw usage : 1)
permit ip host 192.168.2.2 any  (hw usage : 1)

Extended IP access list 102  (hw usage : 3)
permit tcp any any  (hw usage : 1)
permit ip host 192.168.2.3 any  (hw usage : 1)

Extended IP access list 103  (hw usage : 3)
permit tcp any any  (hw usage : 1)
permit ip host 192.168.2.4 any  (hw usage : 1)

ACL-ON-ARP list information:
Port        ACL ID  Filter Count
ve2         103     0
ve3         101     0
ve4         101     0
ACL Accounting Information :
Traffic Policy - g_voip:
General Counters:
Port Region# Byte Count Packet Count
------------------ -------------------- ----------------------
7 (4/1 - 4/12) 85367040 776064
All port regions 84367040 776064

Rate Limiting Counters:
Port Region# Green Conformance Yellow Conformance Red Conformance
-------------------------------- ------------------ ----------------

7 (4/1 - 4/12) 329114195612139520 37533986897781760 0
All port regions    329114195612139520  37533986897781760 0
```

show tech-support l3 ipv4-uc

Syntax: show tech-support l3 ipv4-uc

This command displays the Layer 3 IPv4 unicast information.

```
Brocade# show tech-support l3 ipv4-uc
IP Cache:
--------
Total number of cache entries: 5
D:Dynamic  P:Permanent  F:Forward  U:Us  C:Complex Filter
W:Wait ARP  I:ICMP Deny  K:Drop  R:Fragment  S:Snap Encap
  IP Address   Next Hop      MAC            Type Port       Vlan Pri
1 65.1.1.5     DIRECT        0000.0000.0000 PU   n/a             0
2 10.18.243.32 DIRECT        0000.0000.0000 PU   n/a             0
```

```
3 20.20.20.4   DIRECT        0000.0000.0000 PU   n/a            0
4 21.21.21.40  DIRECT        0000.0000.0000 PU   n/a            0
5 255.255.255.255 DIRECT     0000.0000.0000 PU   n/a            0
IP Interfaces:
-------------
Interface   IP-Address      OK?  Method    Status             Protocol
Eth 7/2     110.1.1.6       YES  NVRAM     admin. down        down
Eth 7/9     65.1.1.5        YES  NVRAM     up                 up
Eth 7/10    20.20.20.4      YES  NVRAM     up                 up
Eth 7/24    21.21.21.40     YES  NVRAM     up                 up
Eth mgmt1   10.18.243.32    YES  NVRAM     up                 up
Ve 3000     1.1.1.2         YES  NVRAM     down               down
IP Routing Table:
---------------
Total number of IP routes: 5, avail: 262139 (out of max 262144)
B:BGP D:Connected  R:RIP  S:Static  O:OSPF *:Candidate default
 Destination    NetMask         Gateway         Port       Cost   Type
  0.0.0.0        0.0.0.0         10.18.243.1     mgmt1      1      S
1 10.18.243.0    255.255.255.128 0.0.0.0         mgmt1      1      D
2 20.20.20.0    255.255.255.0   0.0.0.0         7/10       1      D
3 21.21.21.0     255.255.255.0   0.0.0.0         7/24       1      D
4 65.1.1.0       255.255.255.0   0.0.0.0         7/9        1      D
IP Routing Summary:
-----------------
IP Routing Table - 5 entries:
  4 connected, 1 static, 0 RIP, 0 OSPF, 0 BGP
  Number of prefixes:
  /0: 1 /24: 3 /25: 1

IP Ospf Trap :
-------------
Interface State Change Trap:                      Enabled
Virtual Interface State Change Trap:              Enabled
Neighbor State Change Trap:                       Enabled
Virtual Neighbor State Change Trap:               Enabled
Interface Configuration Error Trap:               Enabled
Virtual Interface Configuration Error Trap:       Enabled
Interface Authentication Failure Trap:            Enabled
Virtual Interface Authentication Failure Trap:    Enabled
Interface Receive Bad Packet Trap:                Enabled
Virtual Interface Receive Bad Packet Trap:        Enabled
Interface Retransmit Packet Trap:                 Enabled
Virtual Interface Retransmit Packet Trap:         Enabled
Originate LSA Trap:                               Enabled
Originate MaxAge LSA Trap:                        Enabled
Link State Database Overflow Trap:                Enabled
Link State Database Approaching Overflow Trap:    Enabled


IP Ospf Error :
--------------
--- The following are for debug. They may not mean error or warning. ---
IP Ospf Resource :
-----------------
                      alloc in-use  avail allo-fail up-limit   get-mem
IP route info        264192      6 264186         0   264192         6
OSPF/IP route union  264192      5 264187         0   264192         6
OSPF route           264192      1 264191         0   264192         1
pool1 size 40B         2000      1   1999         0                 37
pool2 size 64B         4000      1   3999         0                 34
```

```
pool3 size 160B          32      0     32         0                  0
pool4 size 260B          16      0     16         0                  0
pool5 size 516B          32      1     31         0                  1
pool6 size 1504B         32      0     32         0                  0
pool7 size 45303B        16      1     15         0                  1

             alloc   in-use  avail get-fail  limit  get-mem  size init
distribute-list intf     64      0     64        0    14848        0    45   64
simple link list         32      0     32        0     7424        0    16   32
IP Ospf Neighbor Detail :
------------------------

Port        Address         Pri State      Neigh Address   Neigh ID
            Ev Op Cnt
1/1/4         11.1.1.2        1   FULL/DR    11.1.1.1        11.1.1.1
            6  2  0    Life:39, area=0.0.0.0
IP Ospf Virtual-link :
--------------------
No ospf virtual-link entries available
IP Ospf Virtual-neighbor :
------------------------
No ospf virtual-neighbor entries available
IP RIP Routes :
-------------
 Destination Gateway Port Metric Aging-Timer Status
1.1.1.1255.255.255.01/10
IP RIP Interfaces :
-----------------
Interface Eth 7/9 :
        RIP Mode : V1
        Route summarization : Enabled
        Poison reverse : On
        Authentication : Disabled
        Number of packets received : 2068
        Number of packets transmitted : 1
        Aging timeout value : 180
        Garbage collection timeout : 120
        Update time interval : 30
        Last broadcast time : 29
        Next regular update time : 28
        Number of packets rejected : 0

Interface Eth 7/10 :
        RIP Mode : V1
        Route summarization : Enabled
        Poison reverse : On
        Authentication : Disabled
        Number of packets received : 2067
        Number of packets transmitted : 1
        Aging timeout value : 180
        Garbage collection timeout : 120
        Update time interval : 30
        Last broadcast time : 29
        Next regular update time : 28
        Number of packets rejected : 0

IP BGP Neighbors :
----------------
    Total number of BGP Neighbors: 1
1   IP Address: 65.1.1.25, AS: 2 (EBGP), RouterID: 0.0.0.0
```

```
    State: ACTIVE, Time: 16h36m54s, KeepAliveTime: 60, HoldTime: 180
    Messages:    Open    Update  KeepAlive Notification Refresh-Req
       Sent    : 0       0       0         0            0
       Received: 0       0       0         0            0
    Last Connection Reset Reason:Unknown
    Notification Sent:     Unspecified
    Notification Received: Unspecified
    Neighbor NLRI Negotiation:
      Peer configured for IPV4 unicast  Routes
    TCP status not available

IP BGP Routes :
-------------
Total number of BGP Routes: 3
Status A:AGGREGATE B:BEST b:NOT-INSTALLED-BEST C:CONFED_EBGP D:DAMPED
       E:EBGP H:HISTORY I:IBGP L:LOCAL M:LOCAL-MULTIPATH m:NON-LOCAL-MULTIPATH
       S:SUPPRESSED s:STALE
    Prefix         Next Hop        Metric     LocPrf     Weight Status
1   20.20.20.0/24  0.0.0.0         0          100        32768  BL
         AS_PATH:
2   21.21.21.0/24  0.0.0.0         0          100        32768  BL
         AS_PATH:
3   65.1.1.0/24    0.0.0.0         0          100        32768  BL
         AS_PATH:
IP BGP Best Routes :
------------------
Total number of BGP Routes: 3
Status codes: s suppressed, d damped, h history, * valid, > best, i internal, S
stale
Origin codes: i - IGP, e - EGP, ? - incomplete
    Network            Next Hop        Metric      LocPrf Weight Path
*>  20.20.20.0/24      0.0.0.0         0           100    32768  ?
*>  21.21.21.0/24      0.0.0.0         0           100    32768  ?
*>  65.1.1.0/24        0.0.0.0         0           100    32768  ?
IP BGP Summary :
--------------
  BGP4 Summary
  Router ID: 1.1.1.2   Local AS Number : 1
  Confederation Identifier : not configured
  Confederation Peers:
  Maximum Number of Paths Supported for Load Sharing : 1
  Number of Neighbors Configured : 1
  Number of Routes Installed : 3
  Number of Routes Advertising to All Neighbors : 3
  Number of Attribute Entries Installed : 1
  Neighbor Address  AS#   State   Time     Rt:Accepted Filtered Sent   ToSend
  65.1.1.25         2     ACTIV  16h36m54s    0        0        0        3
```

show tech-support l3 ipv6-uc

Syntax: show tech-support l3 ipv6-uc

This command displays the Layer 3 IPv6 unicast information.

```
Brocade# show tech-support l3 ipv6-uc
IPV6 Routing Table:
-----------------
IPv6 Routing Table - 1 entries:
Type Codes:  C - Connected, S - Static, R - RIP, O - OSPF, B - BGP
```

```
OSPF Sub Type Codes:  O - Intra, Oi - Inter, O1 - Type1 external, O2 - Type2
external
Type IPv6 Prefix   Next Hop Router      Interface  Dis/Metric
C  2001::/64        ::                   e 1/1/8     0/0

IPV6 Interfaces:
-------------
Routing Protocols : R - RIP  O - OSPF
Interface      Status     Routing  Global Unicast Address
Eth 1/1/8         up/up      O        2001::1/64
IPV6 Routing Summary:
-------------------
IPv6 Routing Table - 1 entries:
  1 connected, 0 static, 0 RIP, 0 OSPF, 0 BGP
  Number of prefixes:
  /64: 1
IPV6 Cache:
----------
Total number of cache entries: 2
    IPv6 Address               Next Hop           Port
1   2001::1                    LOCAL              e 1/1/8
2   fe80::768e:f8ff:fe2d:7a00  LOCAL              e 1/1/8
IPV6 Neighbor:
-----------
Total number of Neighbor entries: 1
 IPv6 Address       LinkLayer-Addr State  Age  Port    vlan  IsR
 fe80::768e:f8ff:fe2d:5c80  748e.f82d.5c80 STALE   15  e 1/1/8   -    1

IPV6 OSPF Interfaces :
--------------------
Interface  OSPF      Status State     Area
e 1/1/8    enabled   up     DR        0
IPV6 OSPF Neighbor:
------------------

Total number of neighbors in all states: 1
Number of neighbors in state Full      : 1

RouterID        Pri State    DR              BDR             Interface[State]
172.26.67.67      1 Full     172.26.67.65    172.26.67.67    e 1/1/8    [DR]
IPV6 OSPF Memory :
----------------
   Total Static Memory Allocated : 19508 bytes
   Total Dynamic Memory Allocated : 2750268 bytes
   Memory Type               Size   Allocated  Max-alloc  Alloc-Fails
   MTYPE_OSPF6_TOP           81956      1          1          0
   MTYPE_OSPF6_LSA_HDR       56         6          9          0
   MTYPE_OSPF6_RMAP_COMPILED 0          0          0          0
   MTYPE_OSPF6_OTHER         20         0          1          0
   MTYPE_THREAD_MASTER       84         1          1          0
   MTYPE_OSPF6_AREA          107631     1          4          0
   MTYPE_OSPF6_AREA_RANGE    22         0          16         0
   MTYPE_OSPF6_SUMMARY_ADDRE 25         0          16         0
   MTYPE_OSPF6_IF            274        1          64         0
   MTYPE_OSPF6_NEIGHBOR      12471      1          32         0
   MTYPE_OSPF6_ROUTE_NODE    21         3          4096       0
   MTYPE_OSPF6_ROUTE_INFO    35         3          4096       0
   MTYPE_OSPF6_PREFIX        20         0          16         0
   MTYPE_OSPF6_LSA           73         6          4096       0
   MTYPE_OSPF6_VERTEX        166        3          64         0
```

```
   MTYPE_OSPF6_SPFTREE       44         1          2          0
   MTYPE_OSPF6_NEXTHOP       28         4          256        0
   MTYPE_OSPF6_EXTERNAL_INFO 40         0          4096       0
   MTYPE_THREAD              212        8          1024       0
   MTYPE_OSPF6_LINK_LIST     20         3121       20480      0
   MTYPE_OSPF6_LINK_NODE     12         29         20480      0
IPV6 OSPF Virtual-Link:
----------------------
Index Transit Area ID      Router ID Interface Address State
1        1    1.1.1.1   3003::2 P2P

IPV6 OPSF Virtual-neighbor:
---------------------------
Index Router ID Address State Interface
1       1.1.1.1 3002::1 Full ethe 2/3

IPV6 RIP Route :
----------------
IPv6 RIP Routing Table is empty!IPV6 RIP Route:
----------------
IPv6 RIP Routing Table is empty!
```

show tech-support multicast

Syntax: show tech-support multicast

This command displays information specific to Layer 2 and Layer 3 multicast.

```
Brocade# show tech-support multicast
IGMP Group :
----------
p-:physical, ST:static, QR:querier, EX:exclude, IN:include, Y:yes, N:no
e3 : 1 groups, 1 group-port
   group    p-port   ST     QR     life mode    source     local
1 230.1.1.1 e3       no     yes    260  EX      0          YES

PIM Group :
---------
Total number of groups: 1
Index 1         Group 230.1.1.1
     Group member at  e3:  EX 0,

PIM Neighbor :
------------
Total number of neighbors: 1 on 1 ports
Port   Phy_p  Neighbor        Holdtime Age   UpTime  GenID
e5     e5     101.101.101.20  180      180   480     0x154A3D0E

PIM Cache :
---------
Total 1 entries

Example: (S G) in v40 (e2/3) cnt= : e2/3 is phy. of input v40, cnt: SW hit incl.
drop
HW: CAM switched, SW: cpu switched, OAR: SW one-arm-routing, VL: vlan
trunking: TR(e3/3,e3/4): e3/3 is primary trunk port, e3/4 is real out p.
Gre tnnl(OIF): tn5:e1/1: e1/1 is tunnel out-port
               tn5:TR(e1/1): e1/1 is primary-port of tunnel out-trunk
FLAGS: fast/slow: could be HW switched or not
       pru: pruned from upstream
```

```
        frag: packet fragmented, SW forwarded unless multicast-perf configured
        tag/tnnl:  OIF has tagged/tunnel ports
        swL2/hwL2: SW or HW L2 forwarding
        age:   send 1 pkt to cpu from HW switch to reset age
        0L2C:   no L2 CAM hash
        ClSr: has client on input port, never send prune even OIF empty
        drop: use cam to drop pkts if no OIFs.

1    (21.21.21.21 230.1.1.1) in e5 (e5), cnt=28
     upstream neighbor=101.101.101.20 on e5 using ip route
     L3 (HW) 1: e3(VL1)
     fast=1 slow=0 pru=0 graft
     age=60s up-time=1m HW=1 L2-vidx=8188 has mll

Multicast VLAN information :
---------------------------
Summary of all vlans. Please use "sh ip mu vlan <vlan-id>" for details
Version=2, Intervals: Query=125, Group Age=260, Max Resp=10, Other Qr=260

Multicast Group Table information :
---------------------------------
e3 : 1 groups, 1 group-port
  group     p-port   ST     QR     life mode    source     local
1 230.1.1.1  e3       no     yes    260  EX      0          YES
Multicast Cache information :
---------------------------
vlan 10, 0 cache
```

Chapter

4

IP Debug Commands

In this chapter

ARP debug commands

Address Resolution Protocol (ARP) is a standard protocol that enables a router to obtain the Media Access Control (MAC) address of an interface on another device when the router knows the IP address of the interface. ARP is enabled by default and cannot be disabled.

The following commands perform actions related to ARP debugging.

debug ip arp

Syntax: [no] **debug ip arp** <*ip-addr*>

This command activates the debuggging of ARP packets. The <*ip-addr*> variable specifies a particular route.

```
Brocade# debug ip arp 29.29.29.53
ARP:  packets debugging is on
Brocade# show arp

Total number of ARP entries: 3, maximum capacity: 4000
No.   IP Address       MAC Address    Type     Age Port           Status
1     29.29.29.53      748e.f834.1b60 Dynamic  0    2/1/15-2/1/16 Valid
2     200.200.200.45   0012.f2cf.c400 Dynamic  0    1/1/13-1/1/14 Valid
3     30.30.30.31      0024.3823.0f00 Dynamic  0    2/1/9-2/1/10  Valid

Brocade# clear arp
next hop router 29.29.29.53 ARP mapping deleted
```

```
Brocade# ARP: sent packet oper=request, src 29.29.29.111 0024.3876.2c80: dst
29.29.29.53 0000.0000.0000: Port v29
ARP: sent packet oper=request, src 200.200.200.111 0024.3876.2c80: dst
200.200.200.45 0000.0000.0000: Port v2000
ARP: sent packet oper=request, src 30.30.30.111 0024.3876.2c80: dst 30.30.30.31
0000.0000.0000: Port v300
ARP: sent packet oper=request, src 10.20.67.111 0024.3876.2c80: dst 10.20.77.11
0000.0000.0000: Port mgmt1
```

debug ip arp inspection

Syntax: [no] **debug ip arp inspection**

This command activates ARP inspection debugging.

```
Brocade# debug ip arp inspection
ARP:  inspection debugging is on
```

BGP debug commands

The following **debug ip bgp** commands display information about Border Gateway Protocol (BGP) IP transactions.

debug ip bgp

Syntax: [no] **debug ip bgp** *<neighbor_ip_address>*

This command enables common BGP debugging information to be displayed for all virtual routing and forwarding events (VRFs) or for a specific VRF. The *<neighbor_ip_address>* variable refers to the IP address of the immediate neighbor.

```
Brocade# debug ip bgp 77.1.34.10 updates
          BGP:  neighbor 77.1.34.10 debugging is on
Brocade# BGP: 77.1.34.10 rcv UPDATE w/attr: Origin=IGP
AS_PATH=AS_CONFED_SEQUENCE(3) 64519 NextHop=77.1.34.10 MED=0 LOCAL_PREF=100
BGP: 77.1.34.10 rcv UPDATE 49.1.22.0/24
BGP: 77.1.34.10 rcv UPDATE w/attr: Origin=IGP AS_PATH=AS_CONFED_SEQUENCE(3) 64519
NextHop=77.1.34.10 MED=0 LOCAL_PREF=100
BGP: 77.1.34.10 rcv UPDATE 49.1.23.0/24
```

debug ip bgp events

Syntax: [no] **debug ip bgp events**

This command generates information about BGP events, such as connection attempts and keepalive timer activity.

```
Brocade# debug ip bgp events
          BGP:  events debugging is on
Brocade# BGP: 77.1.34.10 rcv notification: CEASE Message
BGP: 77.1.34.10 Peer went to IDLE state (Rcv Notification)
BGP: 77.1.35.10 rcv notification: CEASE Message
BGP: 77.1.35.10 Peer went to IDLE state (Rcv Notification)
BGP: 77.1.34.10 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 77.1.35.10 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 77.1.34.10 rcv GR capability afi/safi=1/1 fbit 0
BGP: 77.1.34.10 Peer went to ESTABLISHED state
```

```
BGP: 77.1.35.10 rcv GR capability afi/safi=1/1 fbit 0
BGP: 77.1.35.10 Peer went to ESTABLISHED state
BGP: 77.1.34.10 rcv UPDATE EOR (0), waiting EOR 0
BGP: 77.1.35.10 rcv UPDATE EOR (0), waiting EOR 0
BGP: 77.1.34.10 sending EOR (safi 0)...
BGP: 77.1.35.10 sending EOR (safi 0)...
```

debug ip bgp graceful-restart

Syntax: [no] **debug ip bgp graceful-restart**

Enable this command to receive information about BGP graceful restarts. The graceful restart feature minimizes disruptions in forwarding and route flapping when a router restarts.

```
Brocade# debug ip bgp graceful-restart
          BGP:  graceful-restart debugging is on
BGP: 101.1.251.6 save graceful restart parameters, #RIB_out 2 (safi 0)
101.1.251.6 RIB_out peer reset  #RIB_out 2 (safi 0)
 BGP: 101.1.251.6 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 101.1.251.6 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 101.1.251.6 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 101.1.251.6 rcv GR capability afi/safi=1/1 fbit 1
BGP: 101.1.251.6 sending EOR (safi 0)...
```

DHCP snooping debug commands

Dynamic Host Configuration Protocol (DHCP) snooping enables the Brocade device to filter untrusted DHCP packets in a subnet. DHCP snooping can ward off man-in-the-middle (MiM) attacks, such as a malicious user posing as a DHCP server sending false DHCP server reply packets with the intention of misdirecting other users. DHCP snooping can also stop unauthorized DHCP servers and prevent errors due to user misconfiguration of the DHCP servers.

Often, DHCP snooping is used together with Dynamic ARP Inspection (DAI) and IP Source Guard.

debug ip dhcp_snooping

Syntax: [no] **debug ip dhcp_snooping**

This command activates the debugging of DHCP snooping activity.

```
Brocade# debug ip dhcp_snooping
DHCP SNOOPING:  debugging is on
```

ICMP debug commands

The following **debug ip icmp** commands display information about Internal Control Message Protocol (ICMP) transactions. These commands are useful in determining if a router is sending or receiving ICMP messages, and for troubleshooting end-to-end connections.

debug ip icmp events

Syntax: [no] **debug ip icmp events**

This command activates the ICMP events debugging.

```
Brocade# debug ip icmp events
         ICMP:  events debugging is on

Brocade# ICMP: rcvd echo request packet of length 40 from 10.44.22.11
ICMP: send echo reply packet of length 60 to 10.44.22.11
ICMP: rcvd echo request packet of length 40 from 10.44.22.11
ICMP: send echo reply packet of length 60 to 10.44.22.11
ICMP: rcvd echo request packet of length 40 from 10.44.22.11
ICMP: send echo reply packet of length 60 to 10.44.22.11
ICMP: rcvd echo request packet of length 40 from 10.44.22.11
ICMP: send echo reply packet of length 60 to 10.44.22.11

Brocade# no debug ip icmp events
         ICMP:  events debugging is off
```

debug ip icmp packets

Syntax: [no] **debug ip icmp packets**

This command activates the ICMP packets debugging.

```
Brocade# debug ip icmp packets
         ICMP:  packets debugging is on
Brocade# !SR_SWITCH_ROUTER!ICMP_DEBUG_RX
ICMP: Received message from 10.44.22.11 to 10.44.22.36 port 1/1/1 size 40
!SR_SWITCH_ROUTER!ICMP_DEBUG_RX
ICMP: Received message from 10.44.22.11 to 10.44.22.36 port 1/1/1 size 40
!SR_SWITCH_ROUTER!ICMP_DEBUG_RX
ICMP: Received message from 10.44.22.11 to 10.44.22.36 port 1/1/1 size 40
!SR_SWITCH_ROUTER!ICMP_DEBUG_RX
ICMP: Received message from 10.44.22.11 to 10.44.22.36 port 1/1/1 size 40

Brocade# no debug ip icmp packets
         ICMP:  packets debugging is off
```

OSPF debug commands

The following **debug ip ospf** commands display information about Open Shortest Path First (OSPF) transactions.

debug ip ospf adj

Syntax: [no] **debug ip ospf adj** <*decimal*>

This command displays information about OSPF adjacencies and authentication, including designated router (DR) and backup designated router (BDR) elections, sent and received hello packets, neighbor state transitions, and database description information. The <*decimal*> variable refers to a specific adjacency event.

```
Brocade# debug ip ospf adj
Brocade# OSPF: broadcast hello to area 0.0.0.10 on intf 101.20.0.1 neigh: 0
OSPF: rcvd hello from 49.2.3.4 area 99 on intf 77.1.34.16
OSPF: rcvd hello from 45.116.116.1 area 10 on intf 101.1.251.17
OSPF: rcvd hello from 45.116.116.1 area 10 on intf 101.1.251.7
OSPF: rcvd hello from 45.116.116.1 area 10 on intf 101.1.91.16
OSPF: broadcast hello to area 0.0.0.10 on intf 77.36.2.1 neigh: 0
OSPF: broadcast hello to area 0.0.0.10 on intf 77.36.100.1 neigh: 0
```

```
OSPF: broadcast hello to area 0.0.0.10 on intf 101.1.251.7 neigh: 1
OSPF: broadcast hello to area 0.0.0.10 on intf 101.1.251.17 neigh: 1
OSPF: broadcast hello to area 0.0.0.99 on intf 77.1.35.16 neigh: 1
OSPF: broadcast hello to area 0.0.0.0 on intf 101.1.251.7 neigh: 1
OSPF: broadcast hello to area 0.0.0.10 on intf 101.1.91.16 neigh: 1
OSPF: broadcast hello to area 0.0.0.10 on intf 77.77.77.77 neigh: 0
OSPF: broadcast hello to area 0.0.0.10 on intf 101.101.62.10 neigh: 0
OSPF: broadcast hello to area 0.0.0.10 on intf 101.101.63.10 neigh: 0
OSPF: broadcast hello to area 0.0.0.10 on intf 101.101.64.10 neigh: 0
OSPF: broadcast hello to area 0.0.0.99 on intf 77.1.34.16 neigh: 1
OSPF: broadcast hello to area 0.0.0.10 on intf 129.1.0.1 neigh: 0
OSPF: broadcast hello to area 0.0.0.10 on intf 101.1.18.1 neigh: 0
OSPF: broadcast hello to area 0.0.0.10 on intf 77.37.0.1 neigh: 0
OSPF: broadcast hello to area 0.0.0.10 on intf 101.1.51.2 neigh: 0
OSPF: broadcast hello to area 0.0.0.99 on intf 128.1.0.1 neigh: 0
OSPF: rcvd hello from 45.116.116.1 area 0 on intf 101.1.251.7
OSPF: broadcast hello to area 0.0.0.10 on intf 21.1.14.2 neigh: 0
OSPF: rcvd hello from 41.41.41.41 area 99 on intf 77.1.35.16
OSPF: broadcast hello to area 0.0.0.10 on intf 101.20.0.1 neigh: 0
OSPF: rcvd hello from 49.2.3.4 area 99 on intf 77.1.34.16
OSPF: broadcast hello to area 0.0.0.10 on intf 77.36.2.1 neigh: 0
OSPF: broadcast hello to area 0.0.0.10 on intf 77.36.100.1 neigh: 0
OSPF: broadcast hello to area 0.0.0.10 on intf 101.1.251.7 neigh: 1
OSPF: broadcast hello to area 0.0.0.10 on intf 101.1.251.17 neigh: 1
OSPF: broadcast hello to area 0.0.0.99 on intf 77.1.35.16 neigh: 1
OSPF: broadcast hello to area 0.0.0.0 on intf 101.1.251.7 neigh: 1
```

debug ip ospf event

Syntax: [no] **debug ip ospf event**

This command displays information about internal OSPF events related to configuration or interaction with the standby management processor and interface state transitions.

```
Brocade# debug ip ospf event
         OSPF:  events debugging is on
Brocade# OSPF: Interface ve 18 (101.1.18.1) state Waiting processing event Wait
Timer
OSPF: DR/BDR election for 101.1.18.1 on ve 18
OSPF: Neighbor 45.213.213.213 int v18, state 2_WAY processing event ADJACENCY_OK
OSPF: send DBD to 45.213.213.213 on ve 18 flag 0x7 seq 0x18a3b9 len 32
OSPF: elect BDR(backup designated router): Router ID 45.213.213.213 IP interface
101.1.18.2
OSPF: elect DR(designated router): Router ID 77.77.77.77, IP interface 101.1.18.1
OSPF: Neighbor 45.116.116.1 int 2/1/21, state FULL processing event HELLO_RECEIVED
OSPF: Neighbor 45.116.116.1 int v511, state FULL processing event HELLO_RECEIVED
OSPF: Neighbor 45.116.116.1 int v911, state FULL processing event HELLO_RECEIVED
OSPF: Neighbor 41.41.41.41 int v35, state FULL processing event HELLO_RECEIVED
OSPF: Neighbor 45.213.213.213 int 2/1/14, state 2_WAY processing event
HELLO_RECEIVED
OSPF: Neighbor 45.116.116.1 int v511, state FULL processing event HELLO_RECEIVED
OSPF: send DBD to 45.213.213.213 on ve 18 flag 0x7 seq 0x18a3b9 len 32
OSPF: Neighbor 49.2.3.4 int v34, state FULL processing event HELLO_RECEIVED
OSPF: Neighbor 45.213.213.213 int v18, state EXCHANGE_START processing event
HELLO_RECEIVED
OSPF: Neighbor 45.213.213.213 int 4/1/12, state FULL processing event
HELLO_RECEIVED

Brocade# OSPF: Interface ethernet 4/1/12 (101.1.51.2) state Down processing event
Interface Up
```

```
virtual interface 101.1.51.2 up, state changed to Other from Point To Point
no deOSPF: Neighbor 45.213.213.213 int 4/1/12, state DOWN processing event
HELLO_RECEIVED
OSPF: Neighbor 45.213.213.213 int 4/1/12, state INITIALIZING processing event
ONE_WAY
bug ip OSPF: Neighbor 45.213.213.213 int 4/1/12, state INITIALIZING processing
event HELLO_RECEIVED
OSPF: Neighbor 45.213.213.213 int 4/1/12, state INITIALIZING processing event
ONE_WAY
ospOSPF: send DBD to 45.213.213.213 on ve 18 flag 0x7 seq 0x18a3b9 len 32
f event
Brocade# no debug ip ospf event
       OSPF:  events debugging is off
```

debug ip ospf graceful-restart

Syntax: [no] **debug ip ospf graceful-restart**

Enable this command to receive information about OSPF graceful restart events, including restart phases, graceful Link-State Advertisement (LSA) transmit and receive activity, and syslog messages.

```
Brocade# debug ip ospf graceful-restart
         OSPF:  graceful-restart debugging is on
Brocade# LSA flush rcvd Type:4 AdvRtr:83.83.10.11 LsId:45.213.213.213
LSA flush rcvd Type:4 AdvRtr:83.83.10.11 LsId:45.213.213.213
LSA flush rcvd Type:4 AdvRtr:45.116.116.1 LsId:45.205.205.205
LSA flush rcvd Type:4 AdvRtr:45.116.116.1 LsId:45.205.205.205
rcv GRACE LSA from 21.1.14.1, age 0, Adv 45.213.213.213
 install new GraceLSA, int 269, neighbor 21.1.14.1, age 0
rcv Grace_LSA from 21.1.14.1, area 0.0.0.10
Recvd grace lsa id=50331648 state=8 0x2dd5d5d5 0x2dd5d5d5 age=0 gr-state=0
 neighbor 21.1.14.1 entering graceful restart state, timer 120, lsa age 0, max
120, helping 0
flood grace LSA, AdvRtr:45.213.213.213,  Age:0
rcv GRACE LSA from 101.1.51.1, age 0, Adv 45.213.213.213
 install new GraceLSA, int 779, neighbor 101.1.51.1, age 0
rcv Grace_LSA from 101.1.51.1, area 0.0.0.10
Recvd grace lsa id=50331648 state=8 0x2dd5d5d5 0x2dd5d5d5 age=0 gr-state=0
 neighbor 101.1.51.1 entering graceful restart state, timer 120, lsa age 0, max
120, helping 0
flood grace LSA, AdvRtr:45.213.213.213,  Age:0
rcv GRACE LSA from 101.1.18.2, age 0, Adv 45.213.213.213
 install new GraceLSA, int 2050, neighbor 101.1.18.2, age 0
rcv Grace_LSA from 101.1.18.2, area 0.0.0.10
Recvd grace lsa id=50331648 state=8 0x2dd5d5d5 0x2dd5d5d5 age=0 gr-state=0
 neighbor 101.1.18.2 entering graceful restart state, timer 120, lsa age 0, max
120, helping 0
flood grace LSA, AdvRtr:45.213.213.213,  Age:0
rcv GRACE LSA from 21.1.14.1, age 0, Adv 45.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 21.1.14.1
restart timer to 120
rcv GRACE LSA from 101.1.51.1, age 0, Adv 45.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 101.1.51.1
restart timer to 120
rcv GRACE LSA from 101.1.18.2, age 0, Adv 45.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 101.1.18.2
restart timer to 120
rcv GRACE LSA from 21.1.14.1, age 0, Adv 45.213.213.213
```

```
Update same instance GRACE LSA age to 0 in database, refresh neighbor 21.1.14.1
restart timer to 120
rcv GRACE LSA from 101.1.51.1, age 0, Adv 45.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 101.1.51.1
restart timer to 120
rcv GRACE LSA from 101.1.18.2, age 0, Adv 45.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 101.1.18.2
restart timer to 120

Brocade# no debug ip ospf graceful-restart
         OSPF:  graceful-restart debugging is off
```

debug ip ospf packet

Syntax: [no] **debug ip ospf packet** [**detail**<*decimal*>| **in** | **out** | **peer**<*ip-addr*> | **port** [**ethernet**<*stackid/slot/port*> | **ve**<*decimal*>] **src-ip**<*ip-addr*> | **type** [**ack** | **dd** | **hello** | **request** | **update**]]

- **detail**<*decimal*>—Refers to the level by bit 0 and 1 and stack trace send by bit 2.
- **in**—Refers only to the input.
- **out**—Refers only to the output.
- **peer**<*ip-addr*>—Matches with the peer (advertisement router).
- **port**—Matches with the I/O port.
- **ethernet**<*stackid/slot/port*>—Refers to the stack ID, slot, or Ethernet port.
- **ve**<*decimal*>—Refers to the number of the virtual Ethernet interface.
- **src-ip**<*ip-addr*>—Matches with the **src-ip** option and only to the input.
- **type**—Matches with the packet type.
- **ack**—Refers to the acknowledgement of the packets received.
- **dd**—Refers to the number of days.
- **hello**—Refers to the hello interval period.
- **request**—Refers to the request sent from a client to a server.
- **update**—Refers to the update to the packets.

This command generates information about the OSPF packets.

```
Brocade# debug ip ospf packet
Brocade# OSPF: recv from:21.1.14.1 to 224.0.0.5 Intf:e 2/1/14 LS-Ack L:104 Auth:0
ID:45.213.213.213

OSPF: recv from:101.1.18.2 to 224.0.0.5 Intf:ve 18  LS-Ack L:104 Auth:0
ID:45.213.213.213

OSPF: send to:224.0.0.5 Intf:ve 36  Hello  L:44 Auth:0 ID:77.77.77.77 DR:77.36.2.1
BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:ve 36  Hello  L:44 Auth:0 ID:77.77.77.77
DR:77.36.100.1 BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:ve 511  Hello  L:48 Auth:0 ID:77.77.77.77
DR:101.1.251.7 BDR:101.1.251.6
OSPF: send to:224.0.0.5 Intf:e 2/1/14 Hello  L:48 Auth:0 ID:77.77.77.77
DR:21.1.14.2 BDR:21.1.14.1
OSPF: send to:224.0.0.5 Intf:e 2/1/21 LS-Ack L:104 Auth:0 ID:77.77.77.77
```

```
OSPF: send to:224.0.0.5 Intf:e 2/1/21 Hello  L:48 Auth:0 ID:77.77.77.77 DR:0.0.0.0
BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:ve 35  Hello  L:48 Auth:0 ID:77.77.77.77
DR:77.1.35.16 BDR:77.1.35.15
OSPF: send to:101.1.251.6 Intf:ve 511  Hello  L:48 Auth:0 ID:77.77.77.77
DR:0.0.0.0 BDR:0.0.0.0
OSPF: send to:101.1.18.2 Intf:e 4/1/12 Hello  L:48 Auth:0 ID:77.77.77.77
DR:0.0.0.0 BDR:0.0.0.0
OSPF: recv from:77.1.35.15 to 224.0.0.5 Intf:ve 35  LS-Ack L:104 Auth:0
ID:41.41.41.41

OSPF: recv from:101.1.251.18 to 101.1.251.17 Intf:e 2/1/21 Hello  L:48 Auth:0
ID:45.116.116.1 DR:0.0.0.0 BDR:0.0.0.0
OSPF: recv from:77.1.34.10 to 224.0.0.5 Intf:ve 34  LS-Ack L:104 Auth:0
ID:49.2.3.4

OSPF: recv from:77.1.34.10 to 224.0.0.5 Intf:ve 34  Hello  L:48 Auth:0 ID:49.2.3.4
DR:77.1.34.16 BDR:77.1.34.10
OSPF: recv from:101.1.251.18 to 224.0.0.5 Intf:e 2/1/21 LS-Upd L:136 Auth:0
ID:45.116.116.1 Cnt:3

OSPF: send to:224.0.0.5 Intf:ve 18  LS-Upd L:136 Auth:0 ID:77.77.77.77 Cnt:3

OSPF: send to:224.0.0.5 Intf:e 2/1/14 LS-Upd L:136 Auth:0 ID:77.77.77.77 Cnt:3

OSPF: send to:224.0.0.5 Intf:e 4/1/12 LS-Upd L:136 Auth:0 ID:77.77.77.77 Cnt:3

OSPF: send to:224.0.0.5 Intf:ve 34  LS-Upd L:136 Auth:0 ID:77.77.77.77 Cnt:3

OSPF: send to:224.0.0.5 Intf:ve 35  LS-Upd L:136 Auth:0 ID:77.77.77.77 Cnt:3

OSPF: recv from:101.1.251.6 to 224.0.0.5 Intf:ve 511  LS-Upd L:136 Auth:0
ID:45.116.116.1 Cnt:3

OSPF: send to:101.1.251.6 Intf:ve 511  LS-Ack L:84 Auth:0 ID:77.77.77.77

OSPF: recv from:101.1.91.18 to 224.0.0.5 Intf:ve 911  LS-Upd L:136 Auth:0
ID:45.116.116.1 Cnt:3

OSPF: send to:101.1.91.18 Intf:ve 911  LS-Ack L:84 Auth:0 ID:77.77.77.77

OSPF: recv from:21.1.14.1 to 224.0.0.5 Intf:e 2/1/14 LS-Upd L:136 Auth:0
ID:45.213.213.213 Cnt:3

OSPF: recv from:101.1.51.1 to 224.0.0.5 Intf:e 4/1/12 LS-Upd L:136 Auth:0
ID:45.213.213.213 Cnt:3

OSPF: recv from:101.1.18.2 to 224.0.0.5 Intf:ve 18  LS-Upd L:136 Auth:0
ID:45.213.213.213 Cnt:3

OSPF: recv from:21.1.14.1 to 224.0.0.5 Intf:e 2/1/14 LS-Ack L:84 Auth:0
ID:45.213.213.213

OSPF: recv from:101.1.18.2 to 224.0.0.5 Intf:ve 18  LS-Ack L:84 Auth:0
ID:45.213.213.213

OSPF: send to:224.0.0.5 Intf:ve 911  Hello  L:48 Auth:0 ID:77.77.77.77
DR:101.1.91.16 BDR:101.1.91.18
OSPF: send to:224.0.0.5 Intf:loopback 1 Hello  L:44 Auth:0 ID:77.77.77.77
DR:77.77.77.77 BDR:0.0.0.0
```

```
OSPF: send to:224.0.0.5 Intf:loopback 2 Hello  L:44 Auth:0 ID:77.77.77.77
DR:101.101.62.10 BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:loopback 3 Hello  L:44 Auth:0 ID:77.77.77.77
DR:101.101.63.10 BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:loopback 4 Hello  L:44 Auth:0 ID:77.77.77.77
DR:101.101.64.10 BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:e 2/1/21 LS-Ack L:84 Auth:0 ID:77.77.77.77

OSPF: recv from:77.1.35.15 to 224.0.0.5 Intf:ve 35  LS-Ack L:84 Auth:0
ID:41.41.41.41

OSPF: recv from:77.1.34.10 to 224.0.0.5 Intf:ve 34  LS-Ack L:84 Auth:0 ID:49.2.3.4

OSPF: recv from:101.1.251.18 to 224.0.0.5 Intf:e 2/1/21 LS-Upd L:100 Auth:0
ID:45.116.116.1 Cnt:2

OSPF: send to:224.0.0.5 Intf:ve 18  LS-Upd L:100 Auth:0 ID:77.77.77.77 Cnt:2

OSPF: send to:224.0.0.5 Intf:e 2/1/14 LS-Upd L:100 Auth:0 ID:77.77.77.77 Cnt:2

OSPF: send to:224.0.0.5 Intf:e 4/1/12 LS-Upd L:100 Auth:0 ID:77.77.77.77 Cnt:2

OSPF: send to:224.0.0.5 Intf:ve 34  LS-Upd L:100 Auth:0 ID:77.77.77.77 Cnt:2

OSPF: send to:224.0.0.5 Intf:ve 35  LS-Upd L:100 Auth:0 ID:77.77.77.77 Cnt:2
OSPF: recv from:101.1.251.6 to 224.0.0.5 Intf:ve 511  LS-Upd L:100 Auth:0
ID:45.116.116.1 Cnt:2

OSPF: send to:101.1.251.6 Intf:ve 511  LS-Ack L:64 Auth:0 ID:77.77.77.77

OSPF: recv from:101.1.91.18 to 224.0.0.5 Intf:ve 911  LS-Upd L:100 Auth:0
ID:45.116.116.1 Cnt:2

OSPF: send to:101.1.91.18 Intf:ve 911  LS-Ack L:64 Auth:0 ID:77.77.77.77

OSPF: recv from:21.1.14.1 to 224.0.0.5 Intf:e 2/1/14 LS-Upd L:100 Auth:0
ID:45.213.213.213 Cnt:2

OSPF: recv from:101.1.51.1 to 224.0.0.5 Intf:e 4/1/12 LS-Upd L:100 Auth:0
ID:45.213.213.213 Cnt:2

OSPF: recv from:101.1.18.2 to 224.0.0.5 Intf:ve 18  LS-Upd L:100 Auth:0
ID:45.213.213.213 Cnt:2

OSPF: recv from:101.1.251.6 to 224.0.0.5 Intf:ve 511  LS-Upd L:748 Auth:0
ID:45.116.116.1 Cnt:20

OSPF: send to:224.0.0.5 Intf:ve 18  LS-Upd L:748 Auth:0 ID:77.77.77.77 Cnt:20

OSPF: send to:224.0.0.5 Intf:e 2/1/14 LS-Upd L:748 Auth:0 ID:77.77.77.77 Cnt:20

OSPF: send to:224.0.0.5 Intf:e 4/1/12 LS-Upd L:748 Auth:0 ID:77.77.77.77 Cnt:20

OSPF: send to:224.0.0.5 Intf:ve 34  LS-Upd L:748 Auth:0 ID:77.77.77.77 Cnt:20

OSPF: send to:224.0.0.5 Intf:ve 35  LS-Upd L:748 Auth:0 ID:77.77.77.77 Cnt:20
```

SNTP debug commands

The following **debug ip sntp** command displays information about the Simple Network Time Protocol (SNTP) transactions.

debug ip sntp

Syntax: [no] **debug ip sntp**

This command shows various traces related to the SNTP broadcast client.

```
Brocade# debug ip sntp
Brocade# Debug: Sep 28 16:36:21 Sending SNTP Query to 10.31.2.80
Debug: Sep 28 16:36:21 v4 SNTP Client Request Packet==========
LI= 0, VN= 4, Mode= 3, Transmit TS = 3526241781.893512 to 10.31.2.80

Debug: Sep 28 16:36:21 sntp_check_authentication_common: ntpHdrLen=48, 0, 0
Debug: Sep 28 16:36:21 cu_get_time_utc_seconds_double: set_clock=3526241765,
current ticks=1692712468, last tick=892897809, ntp_time_counter=893352, returned
time=0 sec
Debug: Sep 28 16:36:05 ^^^Delay calculation: (dest-org)=-17.04044246, (xmt-rec)=0
Delay=-17.04044246, org=35262417.81000000 x100, rec=35262417.81000000 x100,
xmt=35262417.81000000 x100, dest=35262417.63959557 x100
Debug: Sep 28 16:36:05 ^^^Time offset calculation: (rec-org)=0,
(dest-xmt)=-17.04044246, Offset=-8.52022123
Debug: Sep 28 16:36:21 SNTP Server Response Packet==========
Debug: Sep 28 16:36:21 Leap =   0, Stratum=   4, Precision= -20, Delay=4120,
Disp=1047,
RefId=0xa461417
Reference TS = 3526241781.1097449706
Originate TS = 0
Receive TS   = 0
Transmit TS  = 0
**Dest TS    = 0
Roundtrip delay = -17.04044246  (-17040.44246673 ms)
Time Offset = -8.52022123  (-8520.22123336 ms)

Debug: Sep 28 16:36:21 sntp_srvr_mode_handle_syncChange. 1, 0
```

Source Guard debug commands

The following command display information about the Source Guard transactions.

debug ip source_guard

Syntax: [no] **debug ip source_guard**

This command activates the IP Source Guard debugging.

```
Brocade# debug ip source_guard
SOURCE GUARD:  debugging is on
```

SSH debug commands

The following **debug ip ssh** command displays information about the Secure Shell (SSH) transactions.

debug ip ssh

Syntax: [no] **debug ip ssh**

This command activates the SSH debugging.

```
Brocade# debug ip ssh
       SSH:  debugging is on

Brocade(config)# SSH: Incoming connection request received
SSH: ssh_get_free_session_id: ssh.client[0].in_use is 0
SSH: Client session (0) established
SSH: Outgoing connection is ready

ShtcpConnectionStatus[0]: connection established

SSH:ShtcpSend[0]: eSendComplete: the string length [24] !

ShtcpSendStatus[0]: eSendComplete
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [47]

SSH:ShtcpSend[0]: eSendComplete: the string length [216] !

ShtcpSendStatus[0]: eSendComplete
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [464]
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [144]

SSH:ShtcpSend[0]: eSendComplete: the string length [640] !
SSH: Outgoing connection is ready
SSH: Data is ready to receive
SSH: Data is ready to receive
SSH: Remote closed connection
SSH: ssh_close_session# 0, No. of Clients# 0.

ShtcpReceiveStatus[0]: Closed
SSH: ShListen failed.
ShtcpOpenPassive[0]: WaitingForConnection
SSH: Incoming connection request received
SSH: ssh_get_free_session_id: ssh.client[0].in_use is 0
SSH: Client session (0) established
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpConnectionStatus[0]: connection established

ShtcpReceiveStatus[0]: the string length [47]
```

```
SSH:ShtcpSend[0]: eSendComplete: the string length [24] !

ShtcpSendStatus[0]: eSendComplete

SSH:ShtcpSend[0]: eSendComplete: the string length [216] !

ShtcpSendStatus[0]: eSendComplete
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [464]
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [144]

SSH:ShtcpSend[0]: eSendComplete: the string length [640] !
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [16]

ShtcpSendStatus[0]: eSendComplete

SSH:ShtcpSend[0]: eSendComplete: the string length [16] !

ShtcpSendStatus[0]: eSendComplete
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [52]

SSH:ShtcpSend[0]: eSendComplete: the string length [104] !

ShtcpSendStatus[0]: eSendComplete
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [68]

SSH:ShtcpSend[0]: eSendComplete: the string length [68] !

ShtcpSendStatus[0]: eSendComplete
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [116]

SSH:ShtcpSend[0]: eSendComplete: the string length [36] !
ShtcpSendStatus[0]: eSendComplete
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [68]

SSH:ShtcpSend[0]: eSendComplete: the string length [52] !

ShtcpSendStatus[0]: eSendComplete
SSH: Outgoing connection is ready
```

```
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [148]

SSH:ShtcpSend[0]: eSendComplete: the string length [36] !
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [68]

ShtcpSendStatus[0]: eSendComplete

SSH:ShtcpSend[0]: eSendComplete: the string length [36] !
SSH: Outgoing connection is ready
SSH: Data is ready to receive

ShtcpReceiveStatus[0]: the string length [52]

ShtcpSendStatus[0]: eSendComplete

SSH:send_scp_data_to_ssh_client:buf len: 18, Qlen:18, Qaddr:256cd7e0,  Qdepth# 1
SSH: ShListen event for SSH session[0].

SSH:ShtcpSend[0]: eSendComplete: the string length [36] !

ShtcpSendStatus[0]: eSendComplete

SSH:ShtcpSend[0]: eSendComplete: the string length [68] !

ShtcpSendStatus[0]: eSendComplete

SSH:ssh_event_handler: Freeing tx_buf 18, QAddress: 256cd7e0
SSH: Outgoing connection is ready
SSH: Outgoing connection is ready

Brocade# no debug ip ssh
          SSH:  debugging is off
```

TCP debug commands

The following **debug ip tcp** commands display information about the Transmission Control Protocol (TCP) transactions.

debug ip tcp driver

Syntax: [no] **debug ip tcp driver**

This command activates the TCP driver events debugging.

```
Brocade# debug ip tcp driver
TCP:  driver debugging is on
```

debug ip tcp memory

Syntax: [no] **debug ip tcp memory**

This command activates the TCP memory debugging.

```
Brocade# debug ip tcp memory
TCP:  memory debugging is on
```

debug ip tcp packet

Syntax: [no] **debug ip tcp packet**

This command activates the TCP packets debugging.

```
Brocade# debug ip tcp packet
TCP:  packet debugging is on
```

debug ip tcp sack

Syntax: [no] **debug ip tcp sack**

This command activates the TCP Selective Acknowledgment (SACK) debugging.

```
Brocade# debug ip tcp sack
TCP:  sack debugging is on
```

debug ip tcp transactions

Syntax: [no] **debug ip tcp transactions**

This command activates the TCP transactions debugging.

```
Brocade# debug ip tcp transactions
TCP:  transactions debugging is on
```

UDP debug commands

The following **debug ip udp** command displays information about the User Datagram Protocol (UDP) transactions.

debug ip udp

Syntax: [no] **debug ip udp**

This commands activates the UDP debugging.

```
Brocade# debug ip udp
UDP:  debugging is on
```

VRRP and VRRP-E debug commands

Use the following commands to filter the Virtual Router Redundancy Protocol (VRRP) and Virtual Router Redundancy Protocol - Extended (VRRP-E) messages for IPv4 or IPv6, and to debug specific IPv4 or IPv6 packets within the router.

debug ip vrrp packet

Syntax: [no] **debug ip vrrp packet**

This command displays debugging information of any VRRP or VRRP-E packets within the device.

```
Brocade# debug ip vrrp packet
VRRP: packet debugging is on
VRRP (IPv6): send advertise! ver:3 type:1 vrid:100 pri:255 num of ip:1 adv:100
chk:44853
Num of ip addr 1
2000::7:1
VRRP (IPv4): rcvd packet! ver:2 type:1 vrid:10 pri:255 #ip:1 aut:0 adv:1
chk:52198
Num of ip addr 1 10.10.10.2 from sender 10.10.10.2
VRRP (IPv6): rcvd packet! ver:3 type:1 vrid:10 pri:255 #ip:1 aut:0 adv:100
chk:53518
Num of ip addr 1
fe80::7:2 from sender 2000::7:2
VRRP (IPv6): rcvd packet! ver:3 type:1 vrid:11 pri:255 #ip:1 aut:0 adv:200
chk:53417
Num of ip addr 1
fe80::8:2 from sender ::
```

debug ip vrrp packet v4

Syntax: [no] **debug ip vrrp packet v4**

This command displays debugging information of VRRP or VRRP-E packets specific to IPv4 within the device.

```
Brocade# debug ip vrrp packet v4
VRRP (IPv4): packet debugging is on
VRRP (IPv4): rcvd packet! ver:2 type:1 vrid:10 pri:255 #ip:1 aut:0 adv:1 chk:52198

Num of ip addr 1
10.10.10.2 from sender 10.10.10.2
VRRP (IPv4): rcvd packet! ver:2 type:1 vrid:10 pri:255 #ip:1 aut:0 adv:1 chk:52198

Num of ip addr 1
10.10.10.2 from sender 10.10.10.2
VRRP (IPv4): rcvd packet! ver:2 type:1 vrid:10 pri:255 #ip:1 aut:0 adv:1 chk:52198

Num of ip addr 1
10.10.10.2 from sender 10.10.10.2
```

debug ip vrrp packet v6

Syntax: [no] **debug ip vrrp packet v6**

This command displays debugging information of VRRP or VRRP-E packets specific to IPv6 within the device.

```
Brocade# debug ip vrrp packet v6
VRRP (IPv6): packet debugging is on
VRRP (IPv6): rcvd packet! ver:3 type:1 vrid:10 pri:255 #ip:1 aut:0 adv:100
chk:53518
Num of ip addr 1
fe80::7:2 from sender 2000::7:2
VRRP (IPv6): rcvd packet! ver:3 type:1 vrid:11 pri:255 #ip:1 aut:0 adv:200
chk:53417
Num of ip addr 1
fe80::8:2 from sender ::
VRRP (IPv6): send advertise! ver:3 type:1 vrid:100 pri:255 num of ip:1 adv:100
chk:44853
Num of ip addr 1
```

```
2000::7:1
VRRP (IPv6): rcvd packet! ver:3 type:1 vrid:10 pri:255 #ip:1 aut:0 adv:100
chk:53518
Num of ip addr 1
fe80::7:2 from sender 2000::7:2
10.10.10.2 from sender 10.10.10.2
```

debug ip vrrp events

Syntax: [no] **debug ip vrrp events**

This command displays debugging information of VRRP events only within the device.

```
Brocade# debug ip vrrp events
VRRP: events debugging is on
[44fd]VRRP (IPv4): 10.10.10.1 transit to master! IP addr 10.10.10.2 vrid 10, pri
100
[44fd]VRRP (IPv6): fe80::7:1 transit to master! IP addr fe80::7:1 vrid 10, pri 100

[4511]VRRP (IPv6): fe80::8:1 transit to master! IP addr fe80::8:1 vrid 11, pri 255
```

debug ip vrrp vrid

Syntax: [no] **debug ip vrrp vrid** <*decimal*>

This command filters VRRP or VRRP-E debugging using a virtual router identifier (VRID). The <*decimal*> variable refers to the VRID.

```
Brocade# debug ip vrrp vrid 100
Debug VRID: 100 for both IPv4 and IPv6 instances
```

Web debug commands

The following **debug ip web** commands display information about the web transactions.

debug ip web

Syntax: [no] **debug ip web**

This command activates the web debugging.

```
Brocade# debug ip web
WEB:  debugging is on
```

debug ip web-ssl

Syntax: [no] **debug ip web-ssl**

This commands activates web Secured Socket Layer (SSL) debugging.

```
Brocade# debug ip web-ssl
WEB SSL:  debugging is on
```

Chapter

IPv6 Debug Commands

5

In this chapter

General IPv6 debug commands

The **debug ipv6** command enables the collection of information about IPv6 configurations for troubleshooting.

debug ipv6

Syntax: debug ipv6 <*address*> <*cache*> <*icmp*> <*mld*> <*nd*> <*packet*> <*ra*>

- <*address*>—The IPv6 address.
- <*cache*>—The IPv6 cache entry.
- <*icmp*>—The Internet Control Message Protocol version 6 (ICMPv6) address.
- <*mld*>—The Multicast Listener Discovery (MLD) protocol activity.
- <*nd*>—The neighbor discovery.
- <*packet*>—The IPv6 packet.
- <*ra*>—The router address.

IPv6 MLD debug commands

The following debug commands enable the functions related to Multicast Listening Discovery (MLD) debugging.

debug ipv6 mld

Syntax: [**no**] **debug ipv6 mld**

This command displays the debugging information about the received and sent packets of the MLD.

```
Brocade# debug ipv6 mld
Brocade# MLD: rcvd Report-V1(ty=131)  g=ff03::26:2641 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff03::26:2642 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff03::26:2643 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
```

```
MLD: rcvd Report-V1(ty=131)  g=ff03::26:2644 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff03::26:2645 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff03::26:2646 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff03::26:2647 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff03::26:2648 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff03::26:2649 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff03::26:264a resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy 1/3/8), mld_size=24
```

debug ipv6 mld add-del-oif

Syntax: [no] **debug ipv6 mld add-del-oif**

This command is enabled with the MLD **debug ipv6 mcache-source** or **debug ipv6 mcache-group** commands at the same time.

```
Brocade# debug ipv6 mld show
debug ip6 mld mcache-source 50F5 is enabled
debug ip6 mld add-del-oif is enabled
Brocade# show ipv6 mld mcache
Example: (S G) cnt=: (S G) are the lowest 32 bits, cnt: SW proc. count
    OIF: 1/1/22 TR(1/1/32,1/1/33), TR is trunk, 1/1/32 primary, 1/1/33 output
vlan 400, 0 cache
vlan 601, 0 cache
vlan 602, 0 cache
vlan 701, 0 cache
vlan 888, 0 cache
vlan 1000, 5 caches. use 1 VIDX
1    (* 24:2402) cnt=85
     OIF: tag TR(3/1/12) 7/1/17
     age=0m up-time=24m, change=24m vidx=4130 (ref-cnt=0)
2    (* 24:2403) cnt=87
     OIF: tag TR(3/1/12) 7/1/17
     age=0m up-time=24m, change=24m vidx=4130 (ref-cnt=0)
3    (* 24:2404) cnt=249
     OIF: tag TR(3/1/12) 7/1/17
     age=0m up-time=24m, change=24m vidx=4130 (ref-cnt=0)
4    (* 24:2400) cnt=88
     OIF: tag TR(3/1/12) 7/1/17
     age=0m up-time=24m, change=24m vidx=4130 (ref-cnt=0)
5    (* 24:2401) cnt=254
     OIF: tag TR(3/1/12) 7/1/17
     age=0m up-time=24m, change=24m vidx=4130 (ref-cnt=0)
Brocade# Debug: Sep 19 17:39:49 Del 7/1/17  from (0x0 0x242404) vlan 1000
Debug: Sep 19 17:39:49 Del 7/1/17  from (0x0 0x242403) vlan 1000
Debug: Sep 19 17:39:49 Del 7/1/17  from (0x0 0x242402) vlan 1000
Debug: Sep 19 17:39:49 Del 7/1/17  from (0x0 0x242401) vlan 1000
Debug: Sep 19 17:39:49 Del 7/1/17  from (0x0 0x242400) vlan 1000

Brocade# show ipv6 mld mcache
Example: (S G) cnt=: (S G) are the lowest 32 bits, cnt: SW proc. count
    OIF: 1/1/22 TR(1/1/32,1/1/33), TR is trunk, 1/1/32 primary, 1/1/33 output
vlan 400, 0 cache
vlan 601, 0 cache
```

```
vlan 602, 0 cache
vlan 701, 0 cache
vlan 888, 0 cache
vlan 1000, 5 caches. use 1 VIDX
1    (* 24:2402) cnt=85
     OIF: tag TR(3/1/12)
     age=1m up-time=25m, change=25m vidx=4131 (ref-cnt=0) HW-AGE
2    (* 24:2403) cnt=87
     OIF: tag TR(3/1/12)
     age=1m up-time=25m, change=25m vidx=4131 (ref-cnt=0) HW-AGE
3    (* 24:2404) cnt=249
     OIF: tag TR(3/1/12)
     age=1m up-time=25m, change=25m vidx=4131 (ref-cnt=0) HW-AGE
4    (* 24:2400) cnt=88
     OIF: tag TR(3/1/12)
     age=1m up-time=25m, change=25m vidx=4131 (ref-cnt=0) HW-AGE
5    (* 24:2401) cnt=254
     OIF: tag TR(3/1/12)
     age=1m up-time=25m, change=25m vidx=4131 (ref-cnt=0) HW-AGE
Brocade#D ebug: Sep 19 17:40:45 Add 7/1/17  to (0x0 0x242400) vlan 1000
Debug: Sep 19 17:40:45 Add 7/1/17  to (0x0 0x242401) vlan 1000
Debug: Sep 19 17:40:45 Add 7/1/17  to (0x0 0x242402) vlan 1000
Debug: Sep 19 17:40:45 Add 7/1/17  to (0x0 0x242403) vlan 1000
Debug: Sep 19 17:40:45 Add 7/1/17  to (0x0 0x242404) vlan 1000

Brocade# show ipv6 mld mc
Example: (S G) cnt=: (S G) are the lowest 32 bits, cnt: SW proc. count
    OIF: 1/1/22 TR(1/1/32,1/1/33), TR is trunk, 1/1/32 primary, 1/1/33 output
vlan 400, 0 cache
vlan 601, 0 cache
vlan 602, 0 cache
vlan 701, 0 cache
vlan 888, 0 cache
vlan 1000, 5 caches. use 1 VIDX
1    (* 24:2402) cnt=88
     OIF: 7/1/17 tag TR(3/1/12)
     age=0m up-time=25m, change=25m vidx=4130 (ref-cnt=0)
2    (* 24:2403) cnt=88
     OIF: 7/1/17 tag TR(3/1/12)
     age=0m up-time=25m, change=25m vidx=4130 (ref-cnt=0)
3    (* 24:2404) cnt=416
     OIF: 7/1/17 tag TR(3/1/12)
     age=0m up-time=25m, change=25m vidx=4130 (ref-cnt=0)
4    (* 24:2400) cnt=90
     OIF: 7/1/17 tag TR(3/1/12)
     age=0m up-time=25m, change=25m vidx=4130 (ref-cnt=0)
5    (* 24:2401) cnt=421
     OIF: 7/1/17 tag TR(3/1/12)
     age=0m up-time=25m, change=25m vidx=4130 (ref-cnt=0)
```

debug ipv6 mld add-del-oif all

Syntax: [no] **debug ipv6 mld add-del-oif all**

This command monitors outgoing interfaces (OIFs) that are added or deleted for all the MLD groups.

```
Brocade# debug ipv6 mld add-del-oif all
Brocade# debug ipv6 mld show
debug ip6 mld mcache-source 681D is enabled
```

```
debug ip6 mld add-del-oif all is enabled

Brocade# Debug: Sep 16 00:06:37 Del 7/1/17  from (0x0 0x252504) vlan 1000
Debug: Sep 16 00:06:37 Del 7/1/17  from (0x0 0x252503) vlan 1000
Debug: Sep 16 00:06:37 Del 7/1/17  from (0x0 0x252502) vlan 1000
Debug: Sep 16 00:06:37 Del 7/1/17  from (0x0 0x252501) vlan 1000
Debug: Sep 16 00:06:37 Del 7/1/17  from (0x0 0x252500) vlan 1000

Brocade# Debug: Sep 16 00:07:09 Add 7/1/17  to (0x0 0x252500) vlan 1000
Debug: Sep 16 00:07:09 Add 7/1/17  to (0x0 0x252501) vlan 1000
Debug: Sep 16 00:07:09 Add 7/1/17  to (0x0 0x252502) vlan 1000
Debug: Sep 16 00:07:09 Add 7/1/17  to (0x0 0x252503) vlan 1000
Debug: Sep 16 00:07:09 Add 7/1/17  to (0x0 0x252504) vlan 1000
```

debug ipv6 mld add-del-oif stack

Syntax: [no] **debug ipv6 mld add-del-oif stack**

This command displays the MLD stack trace.

```
Brocade# debug ipv6 mld add-del-oif stack
Brocade# debug ipv6 mld show
debug ip6 mld mcache-source 681D is enabled
debug ip6 mld add-del-oif stack is enabled

Brocade# Debug: Sep 16 00:33:08 MLD Snoop: Create (0x0 0x252502) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 2064096C 206414A8 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
Debug: Sep 16 00:33:08 Add 7/1/17  to (0x0 0x252502) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20640EB4 20642100 208C0D68
2064217C 20641554 20732A14 202884C4 204C1EEC 204C2288 204C235C 204C2420 20569EF0
205F0474 2056E85C 205F23E8 5010 15B58 1AAF4
Debug: Sep 16 00:33:08 Add 3/1/12  to (0x0 0x252502) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20641588 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
Debug: Sep 16 00:33:08 MLD Snoop: Create (0x0 0x252503) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 2064096C 206414A8 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
Debug: Sep 16 00:33:08 Add 7/1/17  to (0x0 0x252503) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20640EB4 20642100 208C0D68
2064217C 20641554 20732A14 202884C4 204C1EEC 204C2288 204C235C 204C2420 20569EF0
205F0474 2056E85C 205F23E8 5010 15B58 1AAF4
Debug: Sep 16 00:33:08 Add 3/1/12  to (0x0 0x252503) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20641588 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
Debug: Sep 16 00:33:08 MLD Snoop: Create (0x0 0x252504) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 2064096C 206414A8 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
Debug: Sep 16 00:33:08 Add 7/1/17  to (0x0 0x252504) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20640EB4 20642100 208C0D68
2064217C 20641554 20732A14 202884C4 204C1EEC 204C2288 204C235C 204C2420 20569EF0
205F0474 2056E85C 205F23E8 5010 15B58 1AAF4
Debug: Sep 16 00:33:08 Add 3/1/12  to (0x0 0x252504) vlan 1000
```

```
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20641588 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
Debug: Sep 16 00:33:08 MLD Snoop: Create (0x0 0x252500) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 2064096C 206414A8 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
Debug: Sep 16 00:33:08 Add 7/1/17  to (0x0 0x252500) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20640EB4 20642100 208C0D68
2064217C 20641554 20732A14 202884C4 204C1EEC 204C2288 204C235C 204C2420 20569EF0
205F0474 2056E85C 205F23E8 5010 15B58 1AAF4
Debug: Sep 16 00:33:08 Add 3/1/12  to (0x0 0x252500) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20641588 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
Debug: Sep 16 00:33:08 MLD Snoop: Create (0x0 0x252501) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 2064096C 206414A8 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
Debug: Sep 16 00:33:08 Add 7/1/17  to (0x0 0x252501) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20640EB4 20642100 208C0D68
2064217C 20641554 20732A14 202884C4 204C1EEC 204C2288 204C235C 204C2420 20569EF0
205F0474 2056E85C 205F23E8 5010 15B58 1AAF4
Debug: Sep 16 00:33:08 Add 3/1/12  to (0x0 0x252501) vlan 1000
Debug: Sep 16 00:33:08 stack: 20C3DA54 20640AB8 20641588 20732A14 202884C4
204C1EEC 204C2288 204C235C 204C2420 20569EF0 205F0474 2056E85C 205F23E8 5010 15B58
1AAF4
```

debug ipv6 mld clear

Syntax: [no] **debug ipv6 mld clear**

This command clears all the MLD debug settings.

```
Brocade# debug ipv6 mld clear
no debug ipv6 mld is enabled
```

debug ipv6 mld detail

Syntax: [no] **debug ipv6 mld detail**

This command displays the details of the MLD messages.

```
Brocade# debug ipv6 mld detail
Brocade# debug ipv6 mld show
debug ip6 mld  is enabled
debug ip6 mld detail is enabled
Brocade# Debug: Sep 19 16:25:34 MLD: rcvd Leave(ty=132)  g=ff04::24:2400 resp=0,
pkt S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2400 to VL1000(ethe 7/1/21 ) rsp=10000 mld=24B, pkt=86B
Debug: Sep 19 16:25:34 MLD: rcvd Leave(ty=132)  g=ff04::24:2401 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2401 to VL1000(ethe 7/1/22 ) rsp=10000 mld=24B, pkt=86B
Debug: Sep 19 16:25:34 MLD: rcvd Leave(ty=132)  g=ff04::24:2402 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/23), mld_size=24
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2402 to VL1000(ethe 7/1/23 ) rsp=10000 mld=24B, pkt=86B
```

```
Debug: Sep 19 16:25:34 MLD: rcvd Leave(ty=132)  g=ff04::24:2403 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2403 to VL1000(ethe 7/1/21 ) rsp=10000 mld=24B, pkt=86B
Debug: Sep 19 16:25:34 MLD: rcvd Leave(ty=132)  g=ff04::24:2404 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2404 to VL1000(ethe 7/1/22 ) rsp=10000 mld=24B, pkt=86B
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2404 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2403 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2402 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2401 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
Debug: Sep 19 16:25:34 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2400 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
Debug: Sep 19 16:25:35 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2404 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
Debug: Sep 19 16:25:35 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2403 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
Debug: Sep 19 16:25:35 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2402 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
Debug: Sep 19 16:25:35 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2401 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
Debug: Sep 19 16:25:35 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0
ff04::24:2400 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
```

debug ipv6 mld group

Syntax: [no] **debug ipv6 mld group** <*ipv6addr*>

This command debugs the MLD group matching. The <*ipv6addr*> variable specifies the address of the IPv6 route.

```
Brocade# debug ipv6 mld group ff03::26:2641
Brocade# debug ipv6 mld show
debug ip6 mld group ff03::26:2641 is enabled
Brocade# MLD send Query(t=130) V1, s=fe80::224:38ff:fe26:d900 0000::0000 to
VL888(all) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Report-V1(ty=131)  g=ff03::26:2641 resp=0, pkt
S=fe80::200:3aff:fe01:3a86, on VL611 (phy e6/48), mld_size=24
MLD: rcvd Leave(ty=132)  g=ff03::26:2641 resp=0, pkt S=fe80::200:3aff:fe01:3a86,
on VL611 (phy e6/48), mld_size=24
MLD: rcvd Query(ty=130) V1 g=ff03::26:2641 resp=10000, pkt
S=fe80::21b:f3ff:fe84:124, on VL611 (phy e8/1), mld_size=24
MLD: rcvd Query(ty=130) V1 g=ff03::26:2641 resp=1000, pkt
S=fe80::21b:f3ff:fe84:124, on VL611 (phy e8/1), mld_size=24
MLD: rcvd Query(ty=130) V1 g=ff03::26:2641 resp=1000, pkt
S=fe80::21b:f3ff:fe84:124, on VL611 (phy e8/1), mld_size=24
MLD del VL611 (e6/48) from group entry ff03::26:2641
```

debug ipv6 mld level

Syntax: [no] **debug ipv6 mld level** <*decimal*>

This command displays the different levels of debugging output, and it must be enabled in combination with the other MLD debug commands. The <*decimal*> variable refers to the number of the MLD level from 1 through 3.

```
Brocade# debug ipv6 mld level 1
MLD Debug level = 1
Brocade# Debug: Sep 19 16:44:07 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2400
resp=0, pkt S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:44:07     no routr fid, consume pkt
Debug: Sep 19 16:44:07 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2401 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/23), mld_size=24
Debug: Sep 19 16:44:07     no routr fid, consume pkt
Debug: Sep 19 16:44:07 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2402 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:44:07     no routr fid, consume pkt
Debug: Sep 19 16:44:07 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2403 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:44:07     no routr fid, consume pkt
Debug: Sep 19 16:44:07 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2404 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/23), mld_size=24
Debug: Sep 19 16:44:07     no routr fid, consume pkt

Brocade# Debug: Sep 19 16:45:03 MLD send Query(t=130) V1,
s=fe80::224:38ff:fec6:d0c0 :: to VL1000(all) rsp=10000 mld=24B, pkt=86B
Debug: Sep 19 16:45:06 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff84:55ae resp=0,
pkt S=fe80::200:bff:fe84:55ae, on VL1000 (phy 2/1/1), mld_size=24
Debug: Sep 19 16:45:06     no routr fid, consume pkt
Debug: Sep 19 16:45:07 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff82:50f5 resp=0,
pkt S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:45:07     no routr fid, consume pkt
Debug: Sep 19 16:45:08 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff20:84 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:45:08     no routr fid, consume pkt

Brocade# Debug: Sep 19 16:45:10 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff20:70
resp=0, pkt S=fe80::200:bff:fe84:55ae, on VL1000 (phy 2/1/1), mld_size=24
Debug: Sep 19 16:45:10     no routr fid, consume pkt
Debug: Sep 19 16:45:10 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2400 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/23), mld_size=24
Debug: Sep 19 16:45:10     no routr fid, consume pkt
Debug: Sep 19 16:45:10 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2401 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:45:10     no routr fid, consume pkt
Debug: Sep 19 16:45:10 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2402 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:45:10     no routr fid, consume pkt
Debug: Sep 19 16:45:10 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2403 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/23), mld_size=24
Debug: Sep 19 16:45:10     no routr fid, consume pkt
Debug: Sep 19 16:45:10 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2404 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:45:10     no routr fid, consume pkt

Brocade# debug ipv6 mld level 3
MLD Debug level = 3
Brocade# Debug: Sep 19 16:45:58 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2400
resp=0, pkt S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:45:58     group: ff04::24:2400, life = 260
Debug: Sep 19 16:45:58     no routr fid, consume pkt
Debug: Sep 19 16:45:58 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2401 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:45:58     group: ff04::24:2401, life = 260
Debug: Sep 19 16:45:58     no routr fid, consume pkt
```

```
Debug: Sep 19 16:45:58 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2402 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/23), mld_size=24
Debug: Sep 19 16:45:58     group: ff04::24:2402, life = 260
Debug: Sep 19 16:45:58     no routr fid, consume pkt
Debug: Sep 19 16:45:58 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2403 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:45:58     group: ff04::24:2403, life = 260
Debug: Sep 19 16:45:58     no routr fid, consume pkt
Debug: Sep 19 16:45:58 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2404 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:45:58     group: ff04::24:2404, life = 260
Debug: Sep 19 16:45:58     no routr fid, consume pkt
Debug: Sep 19 16:47:08 MLD send Query(t=130) V1, s=fe80::224:38ff:fec6:d0c0 :: to
VL1000(all) rsp=10000 mld=24B, pkt=86B
Debug: Sep 19 16:47:10 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff20:84 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/23), mld_size=24
Debug: Sep 19 16:47:10     group: ff02::1:ff20:84, life = 260
Debug: Sep 19 16:47:10     no routr fid, consume pkt
Debug: Sep 19 16:47:12 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff20:70 resp=0, pkt
S=fe80::200:bff:fe84:55ae, on VL1000 (phy 2/1/1), mld_size=24
Debug: Sep 19 16:47:12     group: ff02::1:ff20:70, life = 260
Debug: Sep 19 16:47:12     no routr fid, consume pkt
Debug: Sep 19 16:47:15 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff84:55ae resp=0,
pkt S=fe80::200:bff:fe84:55ae, on VL1000 (phy 2/1/1), mld_size=24
Debug: Sep 19 16:47:15     group: ff02::1:ff84:55ae, life = 260
Debug: Sep 19 16:47:15     no routr fid, consume pkt
Debug: Sep 19 16:47:16 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff82:50f5 resp=0,
pkt S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:47:16     group: ff02::1:ff82:50f5, life = 260
Debug: Sep 19 16:47:16     no routr fid, consume pkt
Debug: Sep 19 16:47:18 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2400 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:47:18     group: ff04::24:2400, life = 260
Debug: Sep 19 16:47:18     no routr fid, consume pkt
Debug: Sep 19 16:47:18 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2401 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/23), mld_size=24
Debug: Sep 19 16:47:18     group: ff04::24:2401, life = 260
Debug: Sep 19 16:47:18     no routr fid, consume pkt
Debug: Sep 19 16:47:18 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2402 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/21), mld_size=24
Debug: Sep 19 16:47:18     group: ff04::24:2402, life = 260
Debug: Sep 19 16:47:18     no routr fid, consume pkt
Debug: Sep 19 16:47:18 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2403 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/22), mld_size=24
Debug: Sep 19 16:47:18     group: ff04::24:2403, life = 260
Debug: Sep 19 16:47:18     no routr fid, consume pkt
Debug: Sep 19 16:47:18 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2404 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL1000 (phy 7/1/23), mld_size=24
Debug: Sep 19 16:47:18     group: ff04::24:2404, life = 260
Debug: Sep 19 16:47:18     no routr fid, consume pkt
```

debug ipv6 mld mcache-group

Syntax: [no] **debug ipv6 mld mcache-group** <*hex*>

This command displays a filter of only desired mcache group debugging output, and it must be enabled in combination with the other MLD debug commands. The <*hex*> variable refers to the hexadecimal value of the MLD mcache group.

```
Brocade# debug ipv6 mld  is enabled
```

```
debug ip6 mld mcache-group 2403 is enabled
debug ip6 mld level 3 is enabled

Brocade# Debug: Sep 28 00:09:51 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff67:eb8b
resp=0, pkt S=fe80::200:36ff:fe67:eb8b, on VL510 (phy 1/1/5), mld_size=24
Debug: Sep 28 00:09:51     group: ff02::1:ff67:eb8b, life = 260
Debug: Sep 28 00:09:51     forward to router fid 814
Debug: Sep 28 00:09:52 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff82:50f5 resp=0,
pkt S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:09:52     group: ff02::1:ff82:50f5, life = 260
Debug: Sep 28 00:09:52     forward to router fid 814
Debug: Sep 28 00:09:54 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff53:f9c5 resp=0,
pkt S=fe80::200:36ff:fe53:f9c5, on VL510 (phy 1/1/1), mld_size=24
Debug: Sep 28 00:09:54     group: ff02::1:ff53:f9c5, life = 260
Debug: Sep 28 00:09:54     forward to router fid 814
Debug: Sep 28 00:09:56 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff20:73 resp=0, pkt
S=fe80::200:36ff:fe53:f9c5, on VL510 (phy 1/1/1), mld_size=24
Debug: Sep 28 00:09:56     group: ff02::1:ff20:73, life = 260
Debug: Sep 28 00:09:56     forward to router fid 814
Debug: Sep 28 00:09:56 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff20:77 resp=0, pkt
S=fe80::200:36ff:fe67:eb8b, on VL510 (phy 1/1/5), mld_size=24
Debug: Sep 28 00:09:56     group: ff02::1:ff20:77, life = 260
Debug: Sep 28 00:09:56     forward to router fid 814
Debug: Sep 28 00:09:56 MLD: rcvd Report-V1(ty=131)  g=ff02::1:ff20:84 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:09:56     group: ff02::1:ff20:84, life = 260
Debug: Sep 28 00:09:56     forward to router fid 814
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2400 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::24:2400, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2401 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::24:2401, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2402 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::24:2402, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2403 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::24:2403, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::24:2404 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::24:2404, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::25:2500 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::25:2500, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::25:2501 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::25:2501, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::25:2502 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::25:2502, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
```

```
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::25:2503 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::25:2503, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
Debug: Sep 28 00:10:28 MLD: rcvd Report-V1(ty=131)  g=ff04::25:2504 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/3), mld_size=24
Debug: Sep 28 00:10:28     group: ff04::25:2504, life = 260
Debug: Sep 28 00:10:28     forward to router fid 814
```

debug ipv6 mld phy-port ethernet

Syntax: [no] **debug ipv6 mld phy-port ethernet** <*stackid/slot/port*>

This command matches the input of the physical port. The <*stackid/slot/port*> variable refers to the stack ID, slot number, and port number of a specific Ethernet port.

```
Brocade# debug ipv6 mld phy-port ethernet 1/1/22
Brocade# debug ipv6 mld show
debug ip6 mld physical_port 1/1/22 is enabled
Brocade# MLD: rcvd Report-V1(ty=131)  g=ff04::24:2400 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/22), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff04::24:2402 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/22), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff04::24:2404 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/22), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff04::25:2501 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/22), mld_size=24
MLD: rcvd Report-V1(ty=131)  g=ff04::25:2503 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/22), mld_size=24
```

debug ipv6 mld prime-port ethernet

Syntax: [no] **debug ipv6 mld prime-port ethernet** <*stackid/slot/port*>

This command enables the activity of the physical port and primary port if trunking happened. The <*stackid/slot/port*> variable refers to the stack ID, slot number, and port number of a specific Ethernet port.

```
Brocade# debug ipv6 mld prime-port ethernet 1/1/21
Brocade# debug ipv6 mld show
debug ip6 mld prime-port 1/1/21 is enabled
Brocade# MLD: rcvd Leave(ty=132)  g=ff04::24:2400 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/22), mld_size=24
MLD send Query(t=130) V1, s=fe80::21b:f3ff:fe84:124 ff04::24:2400 to VL510(ethe
1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132)  g=ff04::24:2401 resp=0, pkt S=fe80::200:bff:fe82:50f5,
on VL510 (phy 1/1/21), mld_size=24
MLD send Query(t=130) V1, s=fe80::21b:f3ff:fe84:124 ff04::24:2401 to VL510(ethe
1/1/21 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132)  g=ff04::24:2402 resp=0, pkt S=fe80::200:bff:fe82:50f5,
on VL510 (phy 1/1/22), mld_size=24
MLD send Query(t=130) V1, s=fe80::21b:f3ff:fe84:124 ff04::24:2402 to VL510(ethe
1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132)  g=ff04::24:2403 resp=0, pkt S=fe80::200:bff:fe82:50f5,
on VL510 (phy 1/1/21), mld_size=24
MLD send Query(t=130) V1, s=fe80::21b:f3ff:fe84:124 ff04::24:2403 to VL510(ethe
1/1/21 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132)  g=ff04::24:2404 resp=0, pkt S=fe80::200:bff:fe82:50f5,
on VL510 (phy 1/1/22), mld_size=24
```

```
MLD send Query(t=130) V1, s=fe80::21b:f3ff:fe84:124 ff04::24:2404 to VL510(ethe
1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132)  g=ff04::25:2500 resp=0, pkt S=fe80::200:bff:fe82:50f5,
on VL510 (phy 1/1/21), mld_size=24
MLD send Query(t=130) V1, s=fe80::21b:f3ff:fe84:124 ff04::25:2500 to VL510(ethe
1/1/21 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132)  g=ff04::25:2501 resp=0, pkt S=fe80::200:bff:fe82:50f5,
on VL510 (phy 1/1/22), mld_size=24
MLD send Query(t=130) V1, s=fe80::21b:f3ff:fe84:124 ff04::25:2501 to VL510(ethe
1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132)  g=ff04::25:2502 resp=0, pkt S=fe80::200:bff:fe82:50f5,
on VL510 (phy 1/1/21), mld_size=24
MLD send Query(t=130) V1, s=fe80::21b:f3ff:fe84:124 ff04::25:2502 to VL510(ethe
1/1/21 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132)  g=ff04::25:2503 resp=0, pkt S=fe80::200:bff:fe82:50f5,
on VL510 (phy 1/1/22), mld_size=24
MLD send Query(t=130) V1, s=fe80::21b:f3ff:fe84:124 ff04::25:2503 to VL510(ethe
1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132)  g=ff04::25:2504 resp=0, pkt S=fe80::200:bff:fe82:50f5,
on VL510 (phy 1/1/21), mld_size=24
```

debug ipv6 mld timer

Syntax: [no] **debug ipv6 mld timer**

This command monitors the MLD timer activity.

```
Brocade# debug ipv6 mld timer
Monitor MLD timers activity
```

debug ipv6 mld vlan

Syntax: [no] **debug ipv6 mld vlan** <*decimal*>

This command monitors the MLD VLAN activity. The <*decimal*> variable refers to the VLAN number.

```
Brocade# debug ipv6 mld vlan 2
monitor vlan 2
```

debug ipv6 mld show

Syntax: debug ipv6 mld show

This command displays the MLD debug settings. Do not use the **show debug** command for this purpose. The **show debug** command displays general debug information.

```
Brocade# debug ipv6 mld show
no debug ipv6 mld is enabled
```

Chapter

6 Multicast Debug Commands

In this chapter

MSDP debug commands

Multicast Source Discovery Protocol (MSDP) is used by Protocol-Independent Multicast (PIM) Sparse routers to exchange routing information for PIM Sparse multicast groups across PIM Sparse domains. Devices running MSDP can discover PIM Sparse sources that are in other PIM Sparse domains.

The following **debug ip msdp** commands generate the MSDP information.

debug ip msdp

Syntax: [no] **debug ip msdp** [**alarms** | **events** | **message**]

- **alarms** - Displays information about the MSDP alarms.
- **events** - Displays information about the MSDP events.
- **message** - Displays information about the MSDP messages.

The **debug ip msdp** command generates information about MSDP alarms, events, and messages.

debug ip msdp alarms

Syntax: [no] **debug ip msdp alarms**

This command generates information about the MSDP processing alarms.

```
Brocade# debug ip msdp alarms
: MSDP: S=xxxxxxx P=0 Initiate Transport Connection to MSDP peer
: MSDP: S=xxxxxxx P=0 Initiate Transport Connection to MSDP peer
```

debug ip msdp events

Syntax: [no] **debug ip msdp events**

This command tracks originating SA-advertisements, major peer events, and peer-keepalive timer events.

```
Brocade# debug ip msdp events
: MSDP: 120.120.120.45: Process START event, local = 120.120.120.31
: MSDP: S=xxxxxxx P=0 Initiate Transport Connection to MSDP peer
: MSDP: 120.120.120.45: TCP Connection to Remote Peer is Open
: MSDP: 120.120.120.45: MSDP-TCP Connection opened
```

```
: MSDP: 120.120.120.45: TCP_OPEN DONE, State 4
: MSDP: Remote Peer closed TCP connection
: MSDP: 120.120.120.45 Remote Peer closed TCP connection
: MSDP: Originating SA
: MSDP: Originating SA
: MSDP: Originating SA
: MSDP: Originating SA
: MSDP: Originating SA
```

debug ip msdp message

Syntax: [no] **debug ip msdp message**

This command generates information about MSDP messages received, transmitted and forwarded, and flag errors in the MSDP messages.

```
Brocade# debug ip msdp message
: MSDP: 32.0.0.32: Xmt KA
: MSDP: 32.0.0.32: State=4, Rcv SA 20 bytes
  RP: 32.0.0.32, Num SA: 1 17.17.17.1,237.14.18.3
: MSDP: 32.0.0.32: State=4, Rcv KA
: MSDP: 32.0.0.32: State=4, Rcv SA 20 bytes
  RP: 32.0.0.32, Num SA: 1 17.17.17.1,237.14.18.3
: MSDP: 32.0.0.32: State=4, Rcv KA
: MSDP: 32.0.0.32: Xmt SA 32 bytes
  RP: 45.0.0.45, Num SA: 2 14.14.14.14,237.14.18.3 17.17.17.1,237.14.18.3
: MSDP: 32.0.0.32: Xmt KA
: MSDP: 32.0.0.32: State=4, Rcv SA 20 bytes
  RP: 32.0.0.32, Num SA: 1 17.17.17.1,237.14.18.3
```

IGMP debug commands

The Internet Group Management Protocol (IGMP) allows an IPv4 system to communicate IP multicast group membership information to its neighboring routers. The routers in turn limit the multicast of IP packets with multicast destination addresses to only those interfaces on the router that are identified as IP multicast group members.

The following commands display the information related to IGMP debugging.

debug ip igmp add-del-oif

Syntax: [no] **debug ip igmp add-del-oif**

This command displays information about the addition or deletion of the outgoing interfaces (OIFs).

```
Brocade# debug ip igmp add-del-oif
add-del-oif enabled
Brocade# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp add-del-oif is enabled
Brocade# debug ip igmp
Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.0.147 resp=100, pkt S=17.17.17.222 to
239.0.0.147, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.148 resp=100, pkt S=17.17.17.222 to
239.0.0.148, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.149 resp=100, pkt S=17.17.17.222 to
239.0.0.149, on v17 (phy 2/1/17), igmp_size=8
```

```
IGMP: rcvd Report-V2(t=22)  g=239.0.0.150 resp=100, pkt S=17.17.17.222 to
239.0.0.150, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.151 resp=100, pkt S=17.17.17.222 to
239.0.0.151, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.152 resp=100, pkt S=17.17.17.222 to
239.0.0.152, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.153 resp=100, pkt S=17.17.17.222 to
239.0.0.153, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.154 resp=100, pkt S=17.17.17.222 to
239.0.0.154, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.155 resp=100, pkt S=17.17.17.222 to
239.0.0.155, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.156 resp=100, pkt S=17.17.17.222 to
239.0.0.156, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.157 resp=100, pkt S=17.17.17.222 to
239.0.0.157, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.158 resp=100, pkt S=17.17.17.222 to
239.0.0.158, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.159 resp=100, pkt S=17.17.17.222 to
239.0.0.159, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.160 resp=100, pkt S=17.17.17.222 to
239.0.0.160, on v17 (phy 2/1/17), igmp_size=8

Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.0.161 resp=100, pkt S=17.17.17.222 to
239.0.0.161, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.162 resp=100, pkt S=17.17.17.222 to
239.0.0.162, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.163 resp=100, pkt S=17.17.17.222 to
239.0.0.163, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.164 resp=100, pkt S=17.17.17.222 to
239.0.0.164, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.165 resp=100, pkt S=17.17.17.222 to
239.0.0.165, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.166 resp=100, pkt S=17.17.17.222 to
239.0.0.166, on v17 (phy 2/1/17), igmp_size=8
nIGMP: rcvd Report-V2(t=22)  g=239.0.0.167 resp=100, pkt S=17.17.17.222 to
239.0.0.167, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.168 resp=100, pkt S=17.17.17.222 to
239.0.0.168, on v17 (phy 2/1/17), igmp_size=8
o IGMP: rcvd Report-V2(t=22)  g=239.0.0.169 resp=100, pkt S=17.17.17.222 to
239.0.0.169, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.170 resp=100, pkt S=17.17.17.222 to
239.0.0.170, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.171 resp=100, pkt S=17.17.17.222 to
239.0.0.171, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.172 resp=100, pkt S=17.17.17.222 to
239.0.0.172, on v17 (phy 2/1/17), igmp_size=8
dIGMP: rcvd Report-V2(t=22)  g=239.0.0.173 resp=100, pkt S=17.17.17.222 to
239.0.0.173, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.174 resp=100, pkt S=17.17.17.222 to
239.0.0.174, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.175 resp=100, pkt S=17.17.17.222 to
239.0.0.175, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.176 resp=100, pkt S=17.17.17.222 to
239.0.0.176, on v17 (phy 2/1/17), igmp_size=8
eIGMP: rcvd Report-V2(t=22)  g=239.0.0.177 resp=100, pkt S=17.17.17.222 to
239.0.0.177, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.178 resp=100, pkt S=17.17.17.222 to
239.0.0.178, on v17 (phy 2/1/17), igmp_size=8
```

```
IGMP: rcvd Report-V2(t=22)  g=239.0.0.179 resp=100, pkt S=17.17.17.222 to
239.0.0.179, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.180 resp=100, pkt S=17.17.17.222 to
239.0.0.180, on v17 (phy 2/1/17), igmp_size=8
gIGMP: rcvd Report-V2(t=22)  g=239.0.0.181 resp=100, pkt S=17.17.17.222 to
239.0.0.181, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.182 resp=100, pkt S=17.17.17.222 to
239.0.0.182, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.183 resp=100, pkt S=17.17.17.222 to
239.0.0.183, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.184 resp=100, pkt S=17.17.17.222 to
239.0.0.184, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.185 resp=100, pkt S=17.17.17.222 to
239.0.0.185, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.186 resp=100, pkt S=17.17.17.222 to
239.0.0.186, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.187 resp=100, pkt S=17.17.17.222 to
239.0.0.187, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.188 resp=100, pkt S=17.17.17.222 to
239.0.0.188, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.189 resp=100, pkt S=17.17.17.222 to
239.0.0.189, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.190 resp=100, pkt S=17.17.17.222 to
239.0.0.190, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.191 resp=100, pkt S=17.17.17.222 to
239.0.0.191, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.192 resp=100, pkt S=17.17.17.222 to
239.0.0.192, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.193 resp=100, pkt S=17.17.17.222 to
239.0.0.193, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.194 resp=100, pkt S=17.17.17.222 to
239.0.0.194, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.195 resp=100, pkt S=17.17.17.222 to
239.0.0.195, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.196 resp=100, pkt S=17.17.17.222 to
239.0.0.196, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.197 resp=100, pkt S=17.17.17.222 to
239.0.0.197, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.198 resp=100, pkt S=17.17.17.222 to
239.0.0.198, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.199 resp=100, pkt S=17.17.17.222 to
239.0.0.199, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.200 resp=100, pkt S=17.17.17.222 to
239.0.0.200, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.201 resp=100, pkt S=17.17.17.222 to
239.0.0.201, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.202 resp=100, pkt S=17.17.17.222 to
239.0.0.202, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.203 resp=100, pkt S=17.17.17.222 to
239.0.0.203, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.204 resp=100, pkt S=17.17.17.222 to
239.0.0.204, on v17 (phy 2/1/17), igmp_size=8
bIGMP: rcvd Report-V2(t=22)  g=239.0.0.205 resp=100, pkt S=17.17.17.222 to
239.0.0.205, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.206 resp=100, pkt S=17.17.17.222 to
239.0.0.206, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.207 resp=100, pkt S=17.17.17.222 to
239.0.0.207, on v17 (phy 2/1/17), igmp_size=8
uIGMP: rcvd Report-V2(t=22)  g=239.0.0.208 resp=100, pkt S=17.17.17.222 to
239.0.0.208, on v17 (phy 2/1/17), igmp_size=8
```

```
IGMP: rcvd Report-V2(t=22)  g=239.0.0.209 resp=100, pkt S=17.17.17.222 to
239.0.0.209, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.210 resp=100, pkt S=17.17.17.222 to
239.0.0.210, on v17 (phy 2/1/17), igmp_size=8
gIGMP: rcvd Report-V2(t=22)  g=239.0.0.211 resp=100, pkt S=17.17.17.222 to
239.0.0.211, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.212 resp=100, pkt S=17.17.17.222 to
239.0.0.212, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.213 resp=100, pkt S=17.17.17.222 to
239.0.0.213, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.214 resp=100, pkt S=17.17.17.222 to
239.0.0.214, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.215 resp=100, pkt S=17.17.17.222 to
239.0.0.215, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.216 resp=100, pkt S=17.17.17.222 to
239.0.0.216, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.217 resp=100, pkt S=17.17.17.222 to
239.0.0.217, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.218 resp=100, pkt S=17.17.17.222 to
239.0.0.218, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.219 resp=100, pkt S=17.17.17.222 to
239.0.0.219, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.220 resp=100, pkt S=17.17.17.222 to
239.0.0.220, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.221 resp=100, pkt S=17.17.17.222 to
239.0.0.221, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.222 resp=100, pkt S=17.17.17.222 to
239.0.0.222, on v17 (phy 2/1/17), igmp_size=8
aIGMP: rcvd Report-V2(t=22)  g=239.0.0.223 resp=100, pkt S=17.17.17.222 to
239.0.0.223, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.224 resp=100, pkt S=17.17.17.222 to
239.0.0.224, on v17 (phy 2/1/17), igmp_size=8
lIGMP: rcvd Report-V2(t=22)  g=239.0.0.225 resp=100, pkt S=17.17.17.222 to
239.0.0.225, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.226 resp=100, pkt S=17.17.17.222 to
239.0.0.226, on v17 (phy 2/1/17), igmp_size=8
lIGMP: rcvd Report-V2(t=22)  g=239.0.0.227 resp=100, pkt S=17.17.17.222 to
239.0.0.227, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.228 resp=100, pkt S=17.17.17.222 to
239.0.0.228, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.229 resp=100, pkt S=17.17.17.222 to
239.0.0.229, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.230 resp=100, pkt S=17.17.17.222 to
239.0.0.230, on v17 (phy 2/1/17), igmp_size=8

Debug message destination:  default (console)
All possible debuggings have been turned off
tracking is off and all results are cleared
Turn off stack trace of write table
Disable shadow register write will disable all writes from shadow to hardware
```

debug ip igmp add-del-oif all

Syntax: [no] debug ip igmp add-del-oif all

This command displays information about the addition or deletion of all the OIFs that are IGMP-enabled.

```
Brocade# debug ip igmp add-del-oif all
add-del-oif all enabled
```

```
Brocade# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp add-del-oif all is enabled
Brocade# debug ip igmp
Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.0.99 resp=100, pkt S=17.17.17.222 to
239.0.0.99, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.100 resp=100, pkt S=17.17.17.222 to
239.0.0.100, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.101 resp=100, pkt S=17.17.17.222 to
239.0.0.101, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.102 resp=100, pkt S=17.17.17.222 to
239.0.0.102, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.103 resp=100, pkt S=17.17.17.222 to
239.0.0.103, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.104 resp=100, pkt S=17.17.17.222 to
239.0.0.104, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.105 resp=100, pkt S=17.17.17.222 to
239.0.0.105, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.106 resp=100, pkt S=17.17.17.222 to
239.0.0.106, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.107 resp=100, pkt S=17.17.17.222 to
239.0.0.107, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.108 resp=100, pkt S=17.17.17.222 to
239.0.0.108, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.109 resp=100, pkt S=17.17.17.222 to
239.0.0.109, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.110 resp=100, pkt S=17.17.17.222 to
239.0.0.110, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.111 resp=100, pkt S=17.17.17.222 to
239.0.0.111, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.112 resp=100, pkt S=17.17.17.222 to
239.0.0.112, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.113 resp=100, pkt S=17.17.17.222 to
239.0.0.113, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.114 resp=100, pkt S=17.17.17.222 to
239.0.0.114, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.115 resp=100, pkt S=17.17.17.222 to
239.0.0.115, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.116 resp=100, pkt S=17.17.17.222 to
239.0.0.116, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.117 resp=100, pkt S=17.17.17.222 to
239.0.0.117, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.118 resp=100, pkt S=17.17.17.222 to
239.0.0.118, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.119 resp=100, pkt S=17.17.17.222 to
239.0.0.119, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.120 resp=100, pkt S=17.17.17.222 to
239.0.0.120, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.121 resp=100, pkt S=17.17.17.222 to
239.0.0.121, on v17 (phy 2/1/17), igmp_size=8

Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.0.122 resp=100, pkt S=17.17.17.222 to
239.0.0.122, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.123 resp=100, pkt S=17.17.17.222 to
239.0.0.123, on v17 (phy 2/1/17), igmp_size=8

Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.0.124 resp=100, pkt S=17.17.17.222 to
239.0.0.124, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.125 resp=100, pkt S=17.17.17.222 to
239.0.0.125, on v17 (phy 2/1/17), igmp_size=8
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IGMP: rcvd Report-V2(t=22)  g=239.0.0.126 resp=100, pkt S=17.17.17.222 to
239.0.0.126, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.127 resp=100, pkt S=17.17.17.222 to
239.0.0.127, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.128 resp=100, pkt S=17.17.17.222 to
239.0.0.128, on v17 (phy 2/1/17), igmp_size=8
nIGMP: rcvd Report-V2(t=22)  g=239.0.0.129 resp=100, pkt S=17.17.17.222 to
239.0.0.129, on v17 (phy 2/1/17), igmp_size=8
oIGMP: rcvd Report-V2(t=22)  g=239.0.0.130 resp=100, pkt S=17.17.17.222 to
239.0.0.130, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.131 resp=100, pkt S=17.17.17.222 to
239.0.0.131, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.132 resp=100, pkt S=17.17.17.222 to
239.0.0.132, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.133 resp=100, pkt S=17.17.17.222 to
239.0.0.133, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.134 resp=100, pkt S=17.17.17.222 to
239.0.0.134, on v17 (phy 2/1/17), igmp_size=8
dIGMP: rcvd Report-V2(t=22)  g=239.0.0.135 resp=100, pkt S=17.17.17.222 to
239.0.0.135, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.136 resp=100, pkt S=17.17.17.222 to
239.0.0.136, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.137 resp=100, pkt S=17.17.17.222 to
239.0.0.137, on v17 (phy 2/1/17), igmp_size=8
eIGMP: rcvd Report-V2(t=22)  g=239.0.0.138 resp=100, pkt S=17.17.17.222 to
239.0.0.138, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.139 resp=100, pkt S=17.17.17.222 to
239.0.0.139, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.140 resp=100, pkt S=17.17.17.222 to
239.0.0.140, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.141 resp=100, pkt S=17.17.17.222 to
239.0.0.141, on v17 (phy 2/1/17), igmp_size=8
bIGMP: rcvd Report-V2(t=22)  g=239.0.0.142 resp=100, pkt S=17.17.17.222 to
239.0.0.142, on v17 (phy 2/1/17), igmp_size=8
uIGMP: rcvd Report-V2(t=22)  g=239.0.0.143 resp=100, pkt S=17.17.17.222 to
239.0.0.143, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.144 resp=100, pkt S=17.17.17.222 to
239.0.0.144, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.145 resp=100, pkt S=17.17.17.222 to
239.0.0.145, on v17 (phy 2/1/17), igmp_size=8
gIGMP: rcvd Report-V2(t=22)  g=239.0.0.146 resp=100, pkt S=17.17.17.222 to
239.0.0.146, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.147 resp=100, pkt S=17.17.17.222 to
239.0.0.147, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.148 resp=100, pkt S=17.17.17.222 to
239.0.0.148, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.149 resp=100, pkt S=17.17.17.222 to
239.0.0.149, on v17 (phy 2/1/17), igmp_size=8
aIGMP: rcvd Report-V2(t=22)  g=239.0.0.150 resp=100, pkt S=17.17.17.222 to
239.0.0.150, on v17 (phy 2/1/17), igmp_size=8
lIGMP: rcvd Report-V2(t=22)  g=239.0.0.151 resp=100, pkt S=17.17.17.222 to
239.0.0.151, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.152 resp=100, pkt S=17.17.17.222 to
239.0.0.152, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.153 resp=100, pkt S=17.17.17.222 to
239.0.0.153, on v17 (phy 2/1/17), igmp_size=8
lIGMP: rcvd Report-V2(t=22)  g=239.0.0.154 resp=100, pkt S=17.17.17.222 to
239.0.0.154, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.155 resp=100, pkt S=17.17.17.222 to
239.0.0.155, on v17 (phy 2/1/17), igmp_size=8
```

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IGMP: rcvd Report-V2(t=22)  g=239.0.0.156 resp=100, pkt S=17.17.17.222 to
239.0.0.156, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.157 resp=100, pkt S=17.17.17.222 to
239.0.0.157, on v17 (phy 2/1/17), igmp_size=8

Debug message destination:  default (console)
All possible debuggings have been turned off
tracking is off and all results are cleared
Turn off stack trace of write table
Disable shadow register write will disable all writes from shadow to hardware
```

debug ip igmp add-del-oif stack

Syntax: [no] debug ip igmp add-del-oif stack

This command monitors and displays instances of multicast cache activity, such as OIF additions or deletions, and generates a stack trace of the add or delete event.

```
Brocade# debug ip igmp add-del-oif stack
add-del-oif stack enabled
Brocade# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp add-del-oif stack is enabled
Brocade# debug ip ig
Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.1.8 resp=100, pkt S=17.17.17.222 to
239.0.1.8, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.9 resp=100, pkt S=17.17.17.222 to 239.0.1.9,
on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.10 resp=100, pkt S=17.17.17.222 to
239.0.1.10, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.11 resp=100, pkt S=17.17.17.222 to
239.0.1.11, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.12 resp=100, pkt S=17.17.17.222 to
239.0.1.12, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.13 resp=100, pkt S=17.17.17.222 to
239.0.1.13, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.14 resp=100, pkt S=17.17.17.222 to
239.0.1.14, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.15 resp=100, pkt S=17.17.17.222 to
239.0.1.15, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.16 resp=100, pkt S=17.17.17.222 to
239.0.1.16, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.17 resp=100, pkt S=17.17.17.222 to
239.0.1.17, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.18 resp=100, pkt S=17.17.17.222 to
239.0.1.18, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.19 resp=100, pkt S=17.17.17.222 to
239.0.1.19, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.20 resp=100, pkt S=17.17.17.222 to
239.0.1.20, on v17 (phy 2/1/17), igmp_size=8
nIGMP: rcvd Report-V2(t=22)  g=239.0.1.21 resp=100, pkt S=17.17.17.222 to
239.0.1.21, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.22 resp=100, pkt S=17.17.17.222 to
239.0.1.22, on v17 (phy 2/1/17), igmp_size=8
oIGMP: rcvd Report-V2(t=22)  g=239.0.1.23 resp=100, pkt S=17.17.17.222 to
239.0.1.23, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.24 resp=100, pkt S=17.17.17.222 to
239.0.1.24, on v17 (phy 2/1/17), igmp_size=8
```

```
IGMP: rcvd Report-V2(t=22)  g=239.0.1.25 resp=100, pkt S=17.17.17.222 to
239.0.1.25, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.26 resp=100, pkt S=17.17.17.222 to
239.0.1.26, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.27 resp=100, pkt S=17.17.17.222 to
239.0.1.27, on v17 (phy 2/1/17), igmp_size=8
dIGMP: rcvd Report-V2(t=22)  g=239.0.1.28 resp=100, pkt S=17.17.17.222 to
239.0.1.28, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.29 resp=100, pkt S=17.17.17.222 to
239.0.1.29, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.30 resp=100, pkt S=17.17.17.222 to
239.0.1.30, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.31 resp=100, pkt S=17.17.17.222 to
239.0.1.31, on v17 (phy 2/1/17), igmp_size=8
eIGMP: rcvd Report-V2(t=22)  g=239.0.1.32 resp=100, pkt S=17.17.17.222 to
239.0.1.32, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.33 resp=100, pkt S=17.17.17.222 to
239.0.1.33, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.34 resp=100, pkt S=17.17.17.222 to
239.0.1.34, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.35 resp=100, pkt S=17.17.17.222 to
239.0.1.35, on v17 (phy 2/1/17), igmp_size=8
bIGMP: rcvd Report-V2(t=22)  g=239.0.1.36 resp=100, pkt S=17.17.17.222 to
239.0.1.36, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.37 resp=100, pkt S=17.17.17.222 to
239.0.1.37, on v17 (phy 2/1/17), igmp_size=8
uIGMP: rcvd Report-V2(t=22)  g=239.0.1.38 resp=100, pkt S=17.17.17.222 to
239.0.1.38, on v17 (phy 2/1/17), igmp_size=8
gIGMP: rcvd Report-V2(t=22)  g=239.0.1.39 resp=100, pkt S=17.17.17.222 to
239.0.1.39, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.40 resp=100, pkt S=17.17.17.222 to
239.0.1.40, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.41 resp=100, pkt S=17.17.17.222 to
239.0.1.41, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.42 resp=100, pkt S=17.17.17.222 to
239.0.1.42, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.43 resp=100, pkt S=17.17.17.222 to
239.0.1.43, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.44 resp=100, pkt S=17.17.17.222 to
239.0.1.44, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.45 resp=100, pkt S=17.17.17.222 to
239.0.1.45, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.46 resp=100, pkt S=17.17.17.222 to
239.0.1.46, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.47 resp=100, pkt S=17.17.17.222 to
239.0.1.47, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.48 resp=100, pkt S=17.17.17.222 to
239.0.1.48, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.49 resp=100, pkt S=17.17.17.222 to
239.0.1.49, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.50 resp=100, pkt S=17.17.17.222 to
239.0.1.50, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.51 resp=100, pkt S=17.17.17.222 to
239.0.1.51, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.52 resp=100, pkt S=17.17.17.222 to
239.0.1.52, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.53 resp=100, pkt S=17.17.17.222 to
239.0.1.53, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.54 resp=100, pkt S=17.17.17.222 to
239.0.1.54, on v17 (phy 2/1/17), igmp_size=8
```

```
IGMP: rcvd Report-V2(t=22)  g=239.0.1.55 resp=100, pkt S=17.17.17.222 to
239.0.1.55, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.56 resp=100, pkt S=17.17.17.222 to
239.0.1.56, on v17 (phy 2/1/17), igmp_size=8
aIGMP: rcvd Report-V2(t=22)  g=239.0.1.57 resp=100, pkt S=17.17.17.222 to
239.0.1.57, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.58 resp=100, pkt S=17.17.17.222 to
239.0.1.58, on v17 (phy 2/1/17), igmp_size=8
lIGMP: rcvd Report-V2(t=22)  g=239.0.1.59 resp=100, pkt S=17.17.17.222 to
239.0.1.59, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.60 resp=100, pkt S=17.17.17.222 to
239.0.1.60, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.61 resp=100, pkt S=17.17.17.222 to
239.0.1.61, on v17 (phy 2/1/17), igmp_size=8
lIGMP: rcvd Report-V2(t=22)  g=239.0.1.62 resp=100, pkt S=17.17.17.222 to
239.0.1.62, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.63 resp=100, pkt S=17.17.17.222 to
239.0.1.63, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.64 resp=100, pkt S=17.17.17.222 to
239.0.1.64, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.65 resp=100, pkt S=17.17.17.222 to
239.0.1.65, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.66 resp=100, pkt S=17.17.17.222 to
239.0.1.66, on v17 (phy 2/1/17), igmp_size=8

Debug message destination:  default (console)
All possible debuggings have been turned off
tracking is off and all results are cleared
Turn off stack trace of write table
Disable shadow register write will disable all writes from shadow to hardware
```

debug ip igmp clear

Syntax: [no] **debug ip igmp clear**

This command clears all the IGMP debug settings.

```
Brocade# debug ip igmp clear
no debug ip igmp is enabled
```

debug ip igmp down-port

Syntax: [no] **debug ip igmp down-port**

This command monitors the port that is down.

```
Brocade# debug ip igmp down-port
Brocade# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp port-down is enabled
Brocade# debug ip igmp
Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.0.84 resp=100, pkt S=17.17.17.222 to
239.0.0.84, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.85 resp=100, pkt S=17.17.17.222 to
239.0.0.85, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.86 resp=100, pkt S=17.17.17.222 to
239.0.0.86, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.87 resp=100, pkt S=17.17.17.222 to
239.0.0.87, on v17 (phy 2/1/17), igmp_size=8
```

```
IGMP: rcvd Report-V2(t=22)  g=239.0.0.88 resp=100, pkt S=17.17.17.222 to
239.0.0.88, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.89 resp=100, pkt S=17.17.17.222 to
239.0.0.89, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.90 resp=100, pkt S=17.17.17.222 to
239.0.0.90, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.91 resp=100, pkt S=17.17.17.222 to
239.0.0.91, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.92 resp=100, pkt S=17.17.17.222 to
239.0.0.92, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.93 resp=100, pkt S=17.17.17.222 to
239.0.0.93, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.94 resp=100, pkt S=17.17.17.222 to
239.0.0.94, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.95 resp=100, pkt S=17.17.17.222 to
239.0.0.95, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.96 resp=100, pkt S=17.17.17.222 to
239.0.0.96, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.97 resp=100, pkt S=17.17.17.222 to
239.0.0.97, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.98 resp=100, pkt S=17.17.17.222 to
239.0.0.98, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.99 resp=100, pkt S=17.17.17.222 to
239.0.0.99, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.100 resp=100, pkt S=17.17.17.222 to
239.0.0.100, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.101 resp=100, pkt S=17.17.17.222 to
239.0.0.101, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.102 resp=100, pkt S=17.17.17.222 to
239.0.0.102, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.103 resp=100, pkt S=17.17.17.222 to
239.0.0.103, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.104 resp=100, pkt S=17.17.17.222 to
239.0.0.104, on v17 (phy 2/1/17), igmp_size=8
nIGMP: rcvd Report-V2(t=22)  g=239.0.0.105 resp=100, pkt S=17.17.17.222 to
239.0.0.105, on v17 (phy 2/1/17), igmp_size=8
oIGMP: rcvd Report-V2(t=22)  g=239.0.0.106 resp=100, pkt S=17.17.17.222 to
239.0.0.106, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.107 resp=100, pkt S=17.17.17.222 to
239.0.0.107, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.108 resp=100, pkt S=17.17.17.222 to
239.0.0.108, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.109 resp=100, pkt S=17.17.17.222 to
239.0.0.109, on v17 (phy 2/1/17), igmp_size=8
dIGMP: rcvd Report-V2(t=22)  g=239.0.0.110 resp=100, pkt S=17.17.17.222 to
239.0.0.110, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.111 resp=100, pkt S=17.17.17.222 to
239.0.0.111, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.112 resp=100, pkt S=17.17.17.222 to
239.0.0.112, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.113 resp=100, pkt S=17.17.17.222 to
239.0.0.113, on v17 (phy 2/1/17), igmp_size=8
eIGMP: rcvd Report-V2(t=22)  g=239.0.0.114 resp=100, pkt S=17.17.17.222 to
239.0.0.114, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.115 resp=100, pkt S=17.17.17.222 to
239.0.0.115, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.116 resp=100, pkt S=17.17.17.222 to
239.0.0.116, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.117 resp=100, pkt S=17.17.17.222 to
239.0.0.117, on v17 (phy 2/1/17), igmp_size=8
```

```
bIGMP: rcvd Report-V2(t=22)  g=239.0.0.118 resp=100, pkt S=17.17.17.222 to
239.0.0.118, on v17 (phy 2/1/17), igmp_size=8
uIGMP: rcvd Report-V2(t=22)  g=239.0.0.119 resp=100, pkt S=17.17.17.222 to
239.0.0.119, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.120 resp=100, pkt S=17.17.17.222 to
239.0.0.120, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.121 resp=100, pkt S=17.17.17.222 to
239.0.0.121, on v17 (phy 2/1/17), igmp_size=8
g IGMP: rcvd Report-V2(t=22)  g=239.0.0.122 resp=100, pkt S=17.17.17.222 to
239.0.0.122, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.123 resp=100, pkt S=17.17.17.222 to
239.0.0.123, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.124 resp=100, pkt S=17.17.17.222 to
239.0.0.124, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.125 resp=100, pkt S=17.17.17.222 to
239.0.0.125, on v17 (phy 2/1/17), igmp_size=8
aIGMP: rcvd Report-V2(t=22)  g=239.0.0.126 resp=100, pkt S=17.17.17.222 to
239.0.0.126, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.127 resp=100, pkt S=17.17.17.222 to
239.0.0.127, on v17 (phy 2/1/17), igmp_size=8
lIGMP: rcvd Report-V2(t=22)  g=239.0.0.128 resp=100, pkt S=17.17.17.222 to
239.0.0.128, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.129 resp=100, pkt S=17.17.17.222 to
239.0.0.129, on v17 (phy 2/1/17), igmp_size=8
lIGMP: rcvd Report-V2(t=22)  g=239.0.0.130 resp=100, pkt S=17.17.17.222 to
239.0.0.130, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.131 resp=100, pkt S=17.17.17.222 to
239.0.0.131, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.132 resp=100, pkt S=17.17.17.222 to
239.0.0.132, on v17 (phy 2/1/17), igmp_size=8
Debug message destination:  default (console)
All possible debuggings have been turned off
tracking is off and all results are cleared
Turn off stack trace of write table
Disable shadow register write will disable all writes from shadow to hardware
```

debug ip igmp group

Syntax: [no] **debug ip igmp group** <*ipaddr*>

This command matches the IGMP-enabled group based on the IP address. The <*ipaddr*> variable refers to the IP address of the IGMP group.

```
Brocade# debug ip igmp group 10.11.66.62
IGMP: No L3 mcast, pkt S=10.11.66.62 to 225.1.1.167, on v8 (phy 1/2/4),
igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=225.1.1.167 resp=0, pkt S=10.11.66.62 to
225.1.1.167, on VL8 (phy 1/2/4), igmp_size=8
```

debug ip igmp level

Syntax: [no] **debug ip igmp level** <*decimal*>

This command sets the debug level of the IGMP. The <*decimal*> variable specifies the level of the IGMP. The valid values are from 1 through 3.

```
Brocade# debug ip igmp level  1
debug level = 1
Brocade# debug ip ig show
igmp debug-enable-any = 1
```

```
debug ip igmp level 1 is enabled
Brocade# debug ip igmp
Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.1.240 resp=100, pkt S=17.17.17.222 to
239.0.1.240, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.1.241 resp=100, pkt S=17.17.17.222 to
239.0.1.241, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.1.242 resp=100, pkt S=17.17.17.222 to
239.0.1.242, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.1.243 resp=100, pkt S=17.17.17.222 to
239.0.1.243, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.1.244 resp=100, pkt S=17.17.17.222 to
239.0.1.244, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.1.245 resp=100, pkt S=17.17.17.222 to
239.0.1.245, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.1.246 resp=100, pkt S=17.17.17.222 to
239.0.1.246, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.1.247 resp=100, pkt S=17.17.17.222 to
239.0.1.247, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.1.248 resp=100, pkt S=17.17.17.222 to
239.0.1.248, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.5 resp=100, pkt S=17.17.17.222 to 239.0.0.5,
on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.6 resp=100, pkt S=17.17.17.222 to 239.0.0.6,
on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.7 resp=100, pkt S=17.17.17.222 to 239.0.0.7,
on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.8 resp=100, pkt S=17.17.17.222 to 239.0.0.8,
on v17 (phy 2/1/17), igmp_size=8
    consume pkt
nIGMP: rcvd Report-V2(t=22)  g=239.0.0.9 resp=100, pkt S=17.17.17.222 to
239.0.0.9, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
oIGMP: rcvd Report-V2(t=22)  g=239.0.0.10 resp=100, pkt S=17.17.17.222 to
239.0.0.10, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.11 resp=100, pkt S=17.17.17.222 to
239.0.0.11, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.12 resp=100, pkt S=17.17.17.222 to
239.0.0.12, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.13 resp=100, pkt S=17.17.17.222 to
239.0.0.13, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.14 resp=100, pkt S=17.17.17.222 to
239.0.0.14, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
```

```
IGMP: rcvd Report-V2(t=22)  g=239.0.0.15 resp=100, pkt S=17.17.17.222 to
239.0.0.15, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.16 resp=100, pkt S=17.17.17.222 to
239.0.0.16, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.17 resp=100, pkt S=17.17.17.222 to
239.0.0.17, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.18 resp=100, pkt S=17.17.17.222 to
239.0.0.18, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.19 resp=100, pkt S=17.17.17.222 to
239.0.0.19, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.20 resp=100, pkt S=17.17.17.222 to
239.0.0.20, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.21 resp=100, pkt S=17.17.17.222 to
239.0.0.21, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.22 resp=100, pkt S=17.17.17.222 to
239.0.0.22, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.23 resp=100, pkt S=17.17.17.222 to
239.0.0.23, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.24 resp=100, pkt S=17.17.17.222 to
239.0.0.24, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.25 resp=100, pkt S=17.17.17.222 to
239.0.0.25, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.26 resp=100, pkt S=17.17.17.222 to
239.0.0.26, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.27 resp=100, pkt S=17.17.17.222 to
239.0.0.27, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.28 resp=100, pkt S=17.17.17.222 to
239.0.0.28, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.29 resp=100, pkt S=17.17.17.222 to
239.0.0.29, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
dIGMP: rcvd Report-V2(t=22)  g=239.0.0.30 resp=100, pkt S=17.17.17.222 to
239.0.0.30, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.31 resp=100, pkt S=17.17.17.222 to
239.0.0.31, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.32 resp=100, pkt S=17.17.17.222 to
239.0.0.32, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
eIGMP: rcvd Report-V2(t=22)  g=239.0.0.33 resp=100, pkt S=17.17.17.222 to
239.0.0.33, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.34 resp=100, pkt S=17.17.17.222 to
239.0.0.34, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
```

```
IGMP: rcvd Report-V2(t=22)  g=239.0.0.35 resp=100, pkt S=17.17.17.222 to
239.0.0.35, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.36 resp=100, pkt S=17.17.17.222 to
239.0.0.36, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
bIGMP: rcvd Report-V2(t=22)  g=239.0.0.37 resp=100, pkt S=17.17.17.222 to
239.0.0.37, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.38 resp=100, pkt S=17.17.17.222 to
239.0.0.38, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
uIGMP: rcvd Report-V2(t=22)  g=239.0.0.39 resp=100, pkt S=17.17.17.222 to
239.0.0.39, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.40 resp=100, pkt S=17.17.17.222 to
239.0.0.40, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
gIGMP: rcvd Report-V2(t=22)  g=239.0.0.41 resp=100, pkt S=17.17.17.222 to
239.0.0.41, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.42 resp=100, pkt S=17.17.17.222 to
239.0.0.42, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.43 resp=100, pkt S=17.17.17.222 to
239.0.0.43, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.44 resp=100, pkt S=17.17.17.222 to
239.0.0.44, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.45 resp=100, pkt S=17.17.17.222 to
239.0.0.45, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
aIGMP: rcvd Report-V2(t=22)  g=239.0.0.46 resp=100, pkt S=17.17.17.222 to
239.0.0.46, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.47 resp=100, pkt S=17.17.17.222 to
239.0.0.47, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
lIGMP: rcvd Report-V2(t=22)  g=239.0.0.48 resp=100, pkt S=17.17.17.222 to
239.0.0.48, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.49 resp=100, pkt S=17.17.17.222 to
239.0.0.49, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
lIGMP send Query(t=17) V2, s=17.17.17.52 0.0.0.0 to v17(all) rsp=100 igmp=8B,
pkt=46B
IGMP send Query(t=17) V2, s=19.19.19.52 0.0.0.0 to v19(all) rsp=100 igmp=8B,
pkt=46B
IGMP: rcvd Report-V2(t=22)  g=239.0.0.50 resp=100, pkt S=17.17.17.222 to
239.0.0.50, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.51 resp=100, pkt S=17.17.17.222 to
239.0.0.51, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.52 resp=100, pkt S=17.17.17.222 to
239.0.0.52, on v17 (phy 2/1/17), igmp_size=8
    consume pkt
IGMP: rcvd Report-V2(t=22)  g=239.0.0.53 resp=100, pkt S=17.17.17.222 to
239.0.0.53, on v17 (phy 2/1/17), igmp_size=8
```

```
    consume pkt

Debug message destination:  default (console)
All possible debuggings have been turned off
tracking is off and all results are cleared
Turn off stack trace of write table
Disable shadow register write will disable all writes from shadow to hardware
```

debug ip igmp packet

Syntax: [no] **debug ip igmp packet** <*ipaddr*>

This command traces the IGMP packets. The <*ipaddr*> variable specifies the IP address of the IGMP packet.

```
Brocade# debug ip igmp packet 17.17.17.222 239.0.0.155
debug ip igmp packet S=17.17.17.222 G=239.0.0.155
Brocade# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp packet 17.17.17.222 239.0.0.155 is enabled
Brocade# debug ip igmp
Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.1.160 resp=100, pkt S=17.17.17.222 to
239.0.1.160, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.161 resp=100, pkt S=17.17.17.222 to
239.0.1.161, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.162 resp=100, pkt S=17.17.17.222 to
239.0.1.162, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.163 resp=100, pkt S=17.17.17.222 to
239.0.1.163, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.164 resp=100, pkt S=17.17.17.222 to
239.0.1.164, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.165 resp=100, pkt S=17.17.17.222 to
239.0.1.165, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.166 resp=100, pkt S=17.17.17.222 to
239.0.1.166, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.167 resp=100, pkt S=17.17.17.222 to
239.0.1.167, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.168 resp=100, pkt S=17.17.17.222 to
239.0.1.168, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.169 resp=100, pkt S=17.17.17.222 to
239.0.1.169, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.170 resp=100, pkt S=17.17.17.222 to
239.0.1.170, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.171 resp=100, pkt S=17.17.17.222 to
239.0.1.171, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.172 resp=100, pkt S=17.17.17.222 to
239.0.1.172, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.173 resp=100, pkt S=17.17.17.222 to
239.0.1.173, on v17 (phy 2/1/17), igmp_size=8

Brocade#IGMP: rcvd Report-V2(t=22)  g=239.0.1.174 resp=100, pkt S=17.17.17.222 to
239.0.1.174, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.175 resp=100, pkt S=17.17.17.222 to
239.0.1.175, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.176 resp=100, pkt S=17.17.17.222 to
239.0.1.176, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.177 resp=100, pkt S=17.17.17.222 to
239.0.1.177, on v17 (phy 2/1/17), igmp_size=8
```

```
Brocade#IGMP: rcvd Report-V2(t=22)  g=239.0.1.178 resp=100, pkt S=17.17.17.222 to
239.0.1.178, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.179 resp=100, pkt S=17.17.17.222 to
239.0.1.179, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.180 resp=100, pkt S=17.17.17.222 to
239.0.1.180, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.181 resp=100, pkt S=17.17.17.222 to
239.0.1.181, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.182 resp=100, pkt S=17.17.17.222 to
239.0.1.182, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.183 resp=100, pkt S=17.17.17.222 to
239.0.1.183, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.184 resp=100, pkt S=17.17.17.222 to
239.0.1.184, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.185 resp=100, pkt S=17.17.17.222 to
239.0.1.185, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.186 resp=100, pkt S=17.17.17.222 to
239.0.1.186, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.187 resp=100, pkt S=17.17.17.222 to
239.0.1.187, on v17 (phy 2/1/17), igmp_size=8
nIGMP: rcvd Report-V2(t=22)  g=239.0.1.188 resp=100, pkt S=17.17.17.222 to
239.0.1.188, on v17 (phy 2/1/17), igmp_size=8
oIGMP: rcvd Report-V2(t=22)  g=239.0.1.189 resp=100, pkt S=17.17.17.222 to
239.0.1.189, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.190 resp=100, pkt S=17.17.17.222 to
239.0.1.190, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.191 resp=100, pkt S=17.17.17.222 to
239.0.1.191, on v17 (phy 2/1/17), igmp_size=8
dIGMP: rcvd Report-V2(t=22)  g=239.0.1.192 resp=100, pkt S=17.17.17.222 to
239.0.1.192, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.193 resp=100, pkt S=17.17.17.222 to
239.0.1.193, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.194 resp=100, pkt S=17.17.17.222 to
239.0.1.194, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.195 resp=100, pkt S=17.17.17.222 to
239.0.1.195, on v17 (phy 2/1/17), igmp_size=8
eIGMP: rcvd Report-V2(t=22)  g=239.0.1.196 resp=100, pkt S=17.17.17.222 to
239.0.1.196, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.197 resp=100, pkt S=17.17.17.222 to
239.0.1.197, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.198 resp=100, pkt S=17.17.17.222 to
239.0.1.198, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.199 resp=100, pkt S=17.17.17.222 to
239.0.1.199, on v17 (phy 2/1/17), igmp_size=8
buIGMP: rcvd Report-V2(t=22)  g=239.0.1.200 resp=100, pkt S=17.17.17.222 to
239.0.1.200, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.201 resp=100, pkt S=17.17.17.222 to
239.0.1.201, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.202 resp=100, pkt S=17.17.17.222 to
239.0.1.202, on v17 (phy 2/1/17), igmp_size=8
gIGMP: rcvd Report-V2(t=22)  g=239.0.1.203 resp=100, pkt S=17.17.17.222 to
239.0.1.203, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.204 resp=100, pkt S=17.17.17.222 to
239.0.1.204, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.205 resp=100, pkt S=17.17.17.222 to
239.0.1.205, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.206 resp=100, pkt S=17.17.17.222 to
239.0.1.206, on v17 (phy 2/1/17), igmp_size=8
aIGMP: rcvd Report-V2(t=22)  g=239.0.1.207 resp=100, pkt S=17.17.17.222 to
239.0.1.207, on v17 (phy 2/1/17), igmp_size=8
```

```
lIGMP: rcvd Report-V2(t=22)  g=239.0.1.208 resp=100, pkt S=17.17.17.222 to
239.0.1.208, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.209 resp=100, pkt S=17.17.17.222 to
239.0.1.209, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.210 resp=100, pkt S=17.17.17.222 to
239.0.1.210, on v17 (phy 2/1/17), igmp_size=8
lIGMP: rcvd Report-V2(t=22)  g=239.0.1.211 resp=100, pkt S=17.17.17.222 to
239.0.1.211, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.212 resp=100, pkt S=17.17.17.222 to
239.0.1.212, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.213 resp=100, pkt S=17.17.17.222 to
239.0.1.213, on v17 (phy 2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.1.214 resp=100, pkt S=17.17.17.222 to
239.0.1.214, on v17 (phy 2/1/17), igmp_size=8

Debug message destination:  default (console)
All possible debuggings have been turned off
tracking is off and all results are cleared
Turn off stack trace of write table
Disable shadow register write will disable all writes from shadow to hardware
```

debug ip igmp physical-port ethernet

Syntax: [no] **debug ip igmp physical-port ethernet** <*stackid/slot/port*>

This command matches the physical port that is connected. The <*stackid/slot/port*> variable refers to the stack ID, slot number, and port number of a specific Ethernet port.

```
Brocade# debug ip igmp physical-port ethernet 1/2/4
IGMP: rcvd Leave(t=23)  g=225.1.1.31 resp=0, pkt S=10.11.66.62 to 224.0.0.2, on
VL8 (phy 1/2/4), igmp_size=8
IGMP: No L3 mcast, pkt S=10.11.66.62 to 224.0.0.2, on v8 (phy 1/2/4), igmp_size=8
IGMP: rcvd Leave(t=23)  g=225.1.1.32 resp=0, pkt S=10.11.66.62 to 224.0.0.2, on
VL8 (phy 1/2/4), igmp_size=8
IGMP: No L3 mcast, pkt S=10.11.66.62 to 224.0.0.2, on v8 (phy 1/2/4), igmp_size=8
IGMP: rcvd Leave(t=23)  g=225.1.1.33 resp=0, pkt S=10.11.66.62 to 224.0.0.2, on
VL8 (phy 1/2/4), igmp_size=8
```

debug ip igmp prime-port ethernet

Syntax: [no] **debug ip igmp prime-port ethernet** <*stackid/slot/port*>

This command monitors the activity of the physical port if the trunking is carried out on the primary port. The <*stackid/slot/port*> variable refers to the stack ID, slot number, and port number of a specific Ethernet port.

```
Brocade# debug ip igmp prime-port ethernet 1/1/8
Brocade# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp prime-port 1/1/8 is enabled
Brocade#
Brocade# debug ip igmp
Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.0.5 resp=100, pkt S=16.16.16.222 to
239.0.0.5, on v16 (phy 1/1/8), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.5 resp=100, pkt S=16.16.16.222 to 239.0.0.5,
on v16 (phy 1/1/8), igmp_size=8
```

debug ip igmp source

Syntax: [no] **debug ip igmp source** <*ipaddr*>

This command matches the source of the control packet or IGMP V3 source packets. The <*ipaddr*> variable specifies the IP address of the IGMP source.

```
Brocade# debug ip igmp source 16.16.16.222
Brocade# IGMP: rcvd Report-V2(t=22)  g=239.0.0.5 resp=100, pkt S=16.16.16.222 to
239.0.0.5, on v16 (phy 1/1/8), igmp_size=8
```

debug ip igmp timer

Syntax: [no] **debug ip igmp timer**

This command monitors the IGMP timer activity.

```
Brocade# debug ip igmp timer
monitor timer activity
```

debug ip igmp vlan

Syntax: [no] **debug ip igmp vlan** <*decimal*>

This command matches the VLAN ID for snooping. The <*decimal*> variable represents the VLAN ID.

```
Brocade# debug ip igmp vlan 2
monitor vlan 2
```

debug ip igmp show

Syntax: debug ip igmp show

This command displays the IGMP debug settings. Do not use the **show debug** command for this purpose. The **show debug** command displays general debug information.

```
Brocade# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp port-down is enabled
debug ip igmp detail is enabled
debug ip igmp level 2 is enabled
```

PIM debug commands

Protocol Independent Multicast (PIM) is used to simplify some of the complexity of the routing protocol at the cost of additional overhead tied with a greater replication of forwarded multicast packets. PIM is similar to DVMRP in that PIM builds source-routed multicast delivery trees and employs reverse path check when forwarding the multicast packets.

debug ip pim

Syntax: [no] **debug ip pim**

This command activates the PIM debugging.

```
Brocade# debug ip pim
PIM:  pim debugging is on
```

debug ip pim add-del-oif

Syntax: [no] **debug ip pim add-del-oif**

This command shows mcache activity and will work with the **debug ip pim group** or **debug ip pim source** commands.

```
Brocade# show ip pim neighbors
Total number of neighbors: 4 on 4 ports
Port   Phy_p      Neighbor        Holdtime Age   UpTime  GenID
v19    e16/11     19.19.19.52     180      0     58692   0x5EF61EDA
Port   Phy_p      Neighbor        Holdtime Age   UpTime  GenID
tn2    e16/27     220.220.220.21  180      0     10556   0x28C97FB3
Port   Phy_p      Neighbor        Holdtime Age   UpTime  GenID
tn9    e7/7       139.139.139.32  180      0     0       0x50B77D32
Port   Phy_p      Neighbor        Holdtime Age   UpTime  GenID
tn24   e7/1       120.120.120.31  180      60    840     0x15EB0B50
Brocade# debug ip pim add-del-oif
add-del-oif enabled
Brocade# debug ip pim show
pim debug-enable-any = 1
debug ip pim add-del-oif is enabled
Brocade# debug ip pim
          PIM:  pim debugging is on
Brocade# vport_state_notify v19 (phy e7/3) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
pim_dvmrp_process_port_down (ve port) v19
    update oif, del nbr, del prune_list, update fwd
    igmp_del_group, del_grp, igmp_del_g_grp, reset vif cnt
pim_process_port_up (ve port) v19, send query
vport_state_notify v19 (phy e7/3) up=1
vport_state_notify v19 (phy e16/12) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
vport_state_notify v19 (phy e16/11) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()

Brocade# vport_state_notify v19 (phy e7/3) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
vport_state_notify v19 (phy e7/4) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
vport_state_notify v19 (phy e7/3) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
vport_state_notify v19 (phy e7/3) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
vport_state_notify v19 (phy e7/3) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
vport_state_notify v19 (phy e16/11) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
pim_dvmrp_process_port_down (ve port) v19
    update oif, del nbr, del prune_list, update fwd
    igmp_del_group, del_grp, igmp_del_g_grp, reset vif cnt
```

```
pim_process_port_up (ve port) v19, send query
vport_state_notify v19 (phy e7/3) up=1

Brocade# vport_state_notify v19 (phy e7/3) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
vport_state_notify v19 (phy e16/12) up=0
    update_nbr_phy_mask_for_portdown()
    remove_vport_forward_entry()
pim_dvmrp_process_port_down (ve port) v19
    update oif, del nbr, del prune_list, update fwd
    igmp_del_group, del_grp, igmp_del_g_grp, reset vif cnt
pim_process_port_up (ve port) v19, send query
vport_state_notify v19 (phy e7/3) up=1
```

debug ip pim clear

Syntax: [no] **debug ip pim clear**

This command clears all the PIM debug settings. The output will be similar to the following if no settings are enabled.

```
Brocade# debug ip pim clear
no debug ip pim is enabled
```

debug ip pim control-source

Syntax: [no] **debug ip pim control-source** <*ipaddr*>

This command monitors the control packet sent by the given router. The <*ipaddr*> variable refers to a particular route.

```
Brocade# debug ip pim control-source 100.10.10.129
Brocade# IGMP: rcvd Query(t=17) V2 g=0.0.0.0 resp=100, pkt S=100.10.10.129 to
224.0.0.1, on v100 (phy 8/1/22), igmp_size=8

Brocade# IGMP: rcvd Query(t=17) V2 g=0.0.0.0 resp=100, pkt S=100.10.10.129 to
224.0.0.1, on v100 (phy 8/1/22), igmp_size=8
```

debug ip pim group

Syntax: [no] **debug ip pim group** <*ipaddr*>

This command displays the activities related to the particular IP address. The <*ipaddr*> variable refers to the IP address of the PIM group.

```
Brocade# debug ip pim group 227.1.1.1
Brocade# Proc IGMP join g=227.1.1.1 from v300(2/1/17) 10.11.55.55
PIM: send prune v100, source 10.11.99.99 group 227.1.1.1 nbr 100.10.10.129
Begin sending Join/Prune msg to v100, rpf_nbr=100.10.10.129,
  group address: 227.1.1.1
    Prune list: (10.11.99.99 227.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=34 to v100
PIM: send prune v100, source 0.0.0.0 group 227.1.1.1 nbr 100.10.10.129
Begin sending Join/Prune msg to v100, rpf_nbr=100.10.10.129,
  group address: 227.1.1.1
    Prune list: (0.0.0.0 227.1.1.1) wc=0 rpt=0 sparse=1
    Prune list: (10.11.99.99 227.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=42 to v100
Begin sending Join/Prune msg to v100, rpf_nbr=100.10.10.129,
```

```
  group address: 227.1.1.1
    Prune list: (100.10.10.129 227.1.1.1) wc=1 rpt=1 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=34 to v100
join_prune_timer, (10.11.99.99 227.1.1.1) num=0, RPT=0, group_on_dr_and_sg=0, PR
UNE
join_prune_timer, (10.11.99.99 227.1.1.1) ->num=0, rpt=0, spt=1, SRC=v100, RP=v1
00
join_prune_timer, (10.11.99.99 227.1.1.1) fail RPT PRUNE cond.
join_prune_timer, (0.0.0.0 227.1.1.1) rp not local, send join or prune, wc=1, rp
t=1
Begin sending Join/Prune msg to v100, rpf_nbr=100.10.10.129,
  group address: 227.1.1.1
    Prune list: (100.10.10.129 227.1.1.1) wc=1 rpt=1 sparse=1
    Prune list: (10.11.99.99 227.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=406 to v100

Brocade# show ip pim group | i 227.1.1.1
Brocade# join_prune_timer, (10.11.99.99 227.1.1.1) num=0, RPT=0, group_on_
dr_and_sg=0, PRUNE
join_prune_timer, (10.11.99.99 227.1.1.1) ->num=0, rpt=0, spt=1, SRC=v100, RP=v1
00
join_prune_timer, (10.11.99.99 227.1.1.1) fail RPT PRUNE cond.
join_prune_timer, (0.0.0.0 227.1.1.1) rp not local, send join or prune, wc=1, rp
t=1
Begin sending Join/Prune msg to v100, rpf_nbr=100.10.10.129,
  group address: 227.1.1.1
    Prune list: (100.10.10.129 227.1.1.1) wc=1 rpt=1 sparse=1
    Prune list: (10.11.99.99 227.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=406 to v100

Brocade# Proc IGMP join g=227.1.1.1 from v300(2/1/17) 10.11.55.55
join_prune_timer, (10.11.99.99 227.1.1.1) ->num=1, rpt=0, am_rp_and_proxy=0, JOI
N
join_prune_timer, (10.11.99.99 227.1.1.1) ->num=1, rpt=0, spt=1, SRC=v100, RP=v1
00
join_prune_timer, (10.11.99.99 227.1.1.1) fail RPT PRUNE cond.
Begin sending Join/Prune msg to v100, rpf_nbr=100.10.10.129,
  group address: 227.1.1.1
    Join list: (10.11.99.99 227.1.1.1) wc=0 rpt=0 sparse=1
    Join list: (100.10.10.129 227.1.1.1) wc=1 rpt=1 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=42 to v100

Brocade# Proc IGMP join g=227.1.1.1 from v300(2/1/17) 10.11.55.55

Brocade# join_prune_timer, (10.11.99.99 227.1.1.1) ->num=1, rpt=0,
am_rp_and_proxy=0, JOIN
join_prune_timer, (10.11.99.99 227.1.1.1) ->num=1, rpt=0, spt=1, SRC=v100, RP=v1
00
join_prune_timer, (10.11.99.99 227.1.1.1) fail RPT PRUNE cond.
join_prune_timer, (0.0.0.0 227.1.1.1) rp not local, send join or prune, wc=1, rp
t=1
Begin sending Join/Prune msg to v100, rpf_nbr=100.10.10.129,
  group address: 227.1.1.1
    Join list: (100.10.10.129 227.1.1.1) wc=1 rpt=1 sparse=1
    Join list: (10.11.99.99 227.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=406 to v100
reset age (10.11.99.99, 227.1.1.1)

Brocade# show ip pim group | i 227.1.1.1
Index 7         Group 227.1.1.1
```

debug ip pim level

Syntax: [no] **debug ip pim level** <*decimal*>

This command sets the PIM level. The <*decimal*> variable refers to the number of the PIM level. The valid values are from 1 through 3.

```
Brocade# debug ip pim level
  DECIMAL   1-3 (most detailed)
Brocade# debug ip pim level 1
debug level = 1
Brocade# rcvd PIM_V2 Hello, from 100.10.10.129 to 224.0.0.13 Len 34 on v10
0 (8/1/22)
rcvd PIM_V2 Hello, from 100.10.10.129 to 224.0.0.13 Len 34 on v100 (8/1/22)

Brocade# debug ip pim level 2
debug level = 2
Brocade# 00:21:13 Send PIM_V2 Hello Src 100.10.10.119 Dst 224.0.0.13 Len 3
4 on v100
00:21:13 Send PIM_V2 Hello Src 10.1.20.22 Dst 224.0.0.13 Len 34 on v200
00:21:13 Send PIM_V2 Hello Src 10.1.30.22 Dst 224.0.0.13 Len 34 on v300
rcvd PIM_V2 Bootstrap, from 100.10.10.129 to 224.0.0.13 Len 36 on v100 (8/1/22)
00:21:16 Send PIM_V2 Hello Src 100.10.10.119 Dst 224.0.0.13 Len 34 on v100
00:21:16 Send PIM_V2 Hello Src 10.1.20.22 Dst 224.0.0.13 Len 34 on v200
00:21:16 Send PIM_V2 Hello Src 10.1.30.22 Dst 224.0.0.13 Len 34 on v300
PIMSM: BEGIN Periodic join-prune msgs
Begin sending Join/Prune msg to v100, rpf_nbr=100.10.10.129,
  group address: 225.1.1.10
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=42 to v100
  group address: 225.1.1.9
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=70 to v100
  group address: 225.1.1.8
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=98 to v100
  group address: 225.1.1.7
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=126 to v100
  group address: 225.1.1.6
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=154 to v100
  group address: 225.1.1.5
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=182 to v100
  group address: 225.1.1.4
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=210 to v100
  group address: 226.1.1.1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=238 to v100
  group address: 225.1.1.3
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=266 to v100
  group address: 225.1.1.2
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=294 to v100
  group address: 225.1.1.1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=322 to v100
  group address: 226.1.1.2
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=350 to v100
  group address: 227.1.1.2
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=378 to v100
  group address: 227.1.1.1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=406 to v100
00:21:16 Send PIM_V2 Join/Prune Src 100.10.10.119 Dst 224.0.0.13 Len 406 on v100
PIMSM: END Periodic join-prune msgs

Brocade# debug ip pim level 3
debug level = 3
```

```
Brocade# rcvd PIM_V2 Hello, from 100.10.10.129 to 224.0.0.13 Len 34 on v10
0 (8/1/22)
Hello msg v100, source 100.10.10.129 group 224.0.0.13
rcvd PIM_V2 Hello, from 100.10.10.129 to 224.0.0.13 Len 34 on v100 (8/1/22)
Hello msg v100, source 100.10.10.129 group 224.0.0.13
Proc IGMP join g=226.1.1.2 from v200(5/1/13) 10.11.66.66
Proc IGMP join g=225.1.1.1 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=225.1.1.2 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=225.1.1.3 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=226.1.1.1 from v200(8/1/17) 10.11.22.22
Proc IGMP join g=225.1.1.4 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=225.1.1.5 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=225.1.1.6 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=225.1.1.7 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=225.1.1.8 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=227.1.1.1 from v300(2/1/17) 10.11.55.55
Proc IGMP join g=225.1.1.9 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=225.1.1.10 from v200(5/1/9) 10.11.77.77
Proc IGMP join g=227.1.1.2 from v300(2/1/17) 10.11.55.55
00:22:13 Send PIM_V2 Hello Src 100.10.10.119 Dst 224.0.0.13 Len 34 on v100
00:22:13 Send PIM_V2 Hello Src 10.1.20.22 Dst 224.0.0.13 Len 34 on v200
00:22:13 Send PIM_V2 Hello Src 10.1.30.22 Dst 224.0.0.13 Len 34 on v300
rcvd PIM_V2 Bootstrap, from 100.10.10.129 to 224.0.0.13 Len 36 on v100 (8/1/22)
00:22:16 Send PIM_V2 Hello Src 100.10.10.119 Dst 224.0.0.13 Len 34 on v100
00:22:16 Send PIM_V2 Hello Src 10.1.20.22 Dst 224.0.0.13 Len 34 on v200
00:22:16 Send PIM_V2 Hello Src 10.1.30.22 Dst 224.0.0.13 Len 34 on v300
PIMSM: BEGIN Periodic join-prune msgs
Begin sending Join/Prune msg to v100, rpf_nbr=100.10.10.129,
  group address: 225.1.1.10
    Join list: (100.10.10.129 225.1.1.10) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.10) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=42 to v100
  group address: 225.1.1.9
    Join list: (100.10.10.129 225.1.1.9) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.9) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=70 to v100
  group address: 225.1.1.8
    Join list: (100.10.10.129 225.1.1.8) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.8) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=98 to v100
  group address: 225.1.1.7
    Join list: (100.10.10.129 225.1.1.7) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.7) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=126 to v100
  group address: 225.1.1.6
    Join list: (100.10.10.129 225.1.1.6) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.6) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=154 to v100
  group address: 225.1.1.5
    Join list: (100.10.10.129 225.1.1.5) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.5) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=182 to v100
  group address: 225.1.1.4
    Join list: (100.10.10.129 225.1.1.4) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.4) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=210 to v100
  group address: 226.1.1.1
    Join list: (100.10.10.129 226.1.1.1) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 226.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=238 to v100
```

```
  group address: 225.1.1.3
    Join list: (100.10.10.129 225.1.1.3) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.3) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=266 to v100
  group address: 225.1.1.2
    Join list: (100.10.10.129 225.1.1.2) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.2) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=294 to v100
  group address: 225.1.1.1
    Join list: (100.10.10.129 225.1.1.1) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 225.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=322 to v100
  group address: 226.1.1.2
    Join list: (100.10.10.129 226.1.1.2) wc=1 rpt=1 sparse=1
    Join list: (10.11.101.101 226.1.1.2) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=350 to v100
  group address: 227.1.1.2
    Join list: (100.10.10.129 227.1.1.2) wc=1 rpt=1 sparse=1
    Join list: (10.11.99.99 227.1.1.2) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=378 to v100
  group address: 227.1.1.1
    Join list: (100.10.10.129 227.1.1.1) wc=1 rpt=1 sparse=1
    Join list: (10.11.99.99 227.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=100.10.10.119 dest=224.0.0.13 pkt_size=406 to v100
00:22:16 Send PIM_V2 Join/Prune Src 100.10.10.119 Dst 224.0.0.13 Len 406 on v100
PIMSM: END Periodic join-prune msgs
```

debug ip pim physical-port ethernet

Syntax: [no] **debug ip pim physical-port ethernet** <*stackid/slot/port*>

This command displays information of the PIM physical ports that are connected. The <*stackid/slot/port*> variable refers to the stack ID, slot number, and port number.

```
Brocade# debug ip pim physical-port ethernet 2/1/5
Brocade# IGMP: IGMP: rcvd Report-V3(t=34) #rec=1, pkt S=20.2.1.6 to 224.0.0.22, on
v800 (phy 2
/1/5), igmp_size=16
IGMP: IGMP: rcvd Report-V3(t=34) #rec=1, pkt S=20.2.1.6 to 224.0.0.22, on v800
(phy 2/1/5), igmp_size=16
```

debug ip pim source

Syntax: [no] **debug ip pim source** <*ipaddr*>

This command monitors the content related to a specific PIM server. The <*ipaddr*> variable refers to the IP address of the PIM server source.

```
Brocade# debug ip pim source 10.11.101.101
Brocade# join_prune_timer, (10.11.101.101 225.1.1.10) ->num=1, rpt=0,
am_rp_and_proxy=0, JOIN
join_prune_timer, (10.11.101.101 225.1.1.10) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.10) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 225.1.1.9) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 225.1.1.9) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.9) fail RPT PRUNE cond.
```

```
join_prune_timer, (10.11.101.101 225.1.1.8) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 225.1.1.8) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.8) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 225.1.1.7) ->num=1, rpt=0, am_rp_and_proxy=0, J
OIN
join_prune_timer, (10.11.101.101 225.1.1.7) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.7) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 225.1.1.6) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 225.1.1.6) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.6) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 225.1.1.5) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 225.1.1.5) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.5) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 225.1.1.4) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 225.1.1.4) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.4) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 226.1.1.1) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 226.1.1.1) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 226.1.1.1) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 225.1.1.3) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 225.1.1.3) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.3) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 225.1.1.2) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 225.1.1.2) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.2) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 225.1.1.1) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 225.1.1.1) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 225.1.1.1) fail RPT PRUNE cond.
join_prune_timer, (10.11.101.101 226.1.1.2) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.101.101 226.1.1.2) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.101.101 226.1.1.2) fail RPT PRUNE cond.
    Join list: (10.11.101.101 225.1.1.10) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 225.1.1.9) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 225.1.1.8) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 225.1.1.7) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 225.1.1.6) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 225.1.1.5) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 225.1.1.4) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 226.1.1.1) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 225.1.1.3) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 225.1.1.2) wc=0 rpt=0 sparse=1
```

```
    Join list: (10.11.101.101 225.1.1.1) wc=0 rpt=0 sparse=1
    Join list: (10.11.101.101 226.1.1.2) wc=0 rpt=0 sparse=1
```

debug ip pim show

Syntax: debug ip pim show

This command displays the PIM debug settings. Do not use the **show debug** command for this purpose. The **show debug** command displays general debug information.

```
Brocade# debug ip pim show
pim debug-enable-any = 1
debug ip pim level 2 is enabled
```

Chapter

7

Security Debug Commands

In this chapter

ACL debug commands

The IP Access Control List (ACL) feature filters traffic based on the information in the IP packet header. The following command displays the ACL log information.

debug acl log

Syntax: [no] **debug acl log**

This command sends the ACL log to the CPU for all the packets.

```
Brocade# debug acl log
Enabling ACL log
```

802.1x debug commands

The following commands displays information about 802.1x authentication events, activities, and settings.

debug dot1x events

Syntax: [no] **debug dot1x events**

This command displays the authentications failed or succeeded and the application of VLANs or ACLs requested by the Remote Authentication Dial In User Service (RADIUS) server. This command works globally across all the ports.

```
Brocade# debug dot1x events
dot1x:  Events debugging is on
```

debug dot1x filter

Syntax: [no] **debug dot1x filter**

This command enables the 802.1x filter debugging.

```
Brocade# debug dot1x filter
dot1x:  Filter debugging is on
```

debug dot1x misc

Syntax: [no] **debug dot1x misc**

This command enables the 802.1x miscellaneous debugging.

```
Brocade# debug dot1x misc
dot1x:  Misc debugging is on
```

debug dot1x packets

Syntax: [no] **debug dot1x packets**

This command displays information about 802.1x packets.

```
Brocade# debug dot1x packets
dot1x:  Packets debugging is on
```

debug dot1x timers

Syntax: [no] **debug dot1x timers**

This command displaysinformation about 802.1x timers.

```
Brocade# debug dot1x timers
dot1x:  Timers debugging is on
```

MAC authentication debug commands

The following command displays MAC authentication information.

debug mac-authentication

Syntax: [no] **debug mac-authentication** <*hex*>

This command enables the MAC authentication debugging for a single port. The <*hex*> variable specifies the hexadecimal number of the port.

NOTE
This debug command displays output that is useful for the technical support personnel. Use the **ptrace aaa** command instead of the **mac authentication** command to display information about the authentication of packets between the switch and the RADIUS server.

```
Brocade# ptrace aaa
specified trace was turned ON
Brocade# clear auth
Brocade# Reseting RADIUS Client structure
RADIUS: Create client 15, Total number of active clients=1
```

```
Tracing the outgoing Radius Authentication packet..
UDP packet source IP=198.19.9.1, port=1645, destination IP=64.12.12.5, port=1745
Radius Header (hex): Code=0x01 Identifier=0x11 Length=0x0065
Authenticator (hex):000078d6000028c00000699d00004bf3
 Attribute Type(hex)=0x01 Len(hex)=0x0e Value (ASCII)=0 0 3 0 4 8 7 4 3 1 8 1
 Attribute Type(hex)=0x02 Len(hex)=0x12 Value (hex)=414084e32550daec45ef8129b7c6
aed9
 Attribute Type(hex)=0x06 Len(hex)=0x06 Value (hex)=00000002
 Attribute Type(hex)=0x0c Len(hex)=0x06 Value (hex)=000005dc
 Attribute Type(hex)=0x04 Len(hex)=0x06 Value (hex)=c6130901
 Attribute Type(hex)=0x3d Len(hex)=0x06 Value (hex)=0000000f
 Attribute Type(hex)=0x05 Len(hex)=0x06 Value (hex)=0000038c
 Attribute Type(hex)=0x1f Len(hex)=0x13 Value (ASCII)=0 0 - 3 0 - 4 8 - 7 4 - 3
1 - 8 1

Radius message received from server.
Tracing the received Radius packet..
Radius Header (hex): Code=0x02 Identifier=0x11 Length=0x0051
Authenticator (hex):c98e259aa7b6aeb66baf79af9a77e81e
 Attribute Type(hex)=0x41 Len(hex)=0x06 Value (hex)=00000006
 Attribute Type(hex)=0x51 Len(hex)=0x05 Value (hex)=313939
 Attribute Type(hex)=0x40 Len(hex)=0x06 Value (hex)=0000000d
 Attribute Type(hex)=0x07 Len(hex)=0x06 Value (hex)=00000001
 Attribute Type(hex)=0x06 Len(hex)=0x06 Value (hex)=00000002
 Attribute Type(hex)=0x19 Len(hex)=0x20 Value (hex)=3cdc04f60000013700010a144086
01cb1fa09e8d214e00000000000001b2

RADIUS: Unsupported RADIUS message 7 with code 2
RADIUS: Unsupported RADIUS message 6 with code 2
RADIUS: Unsupported RADIUS message 25 with code 2
+++++ Timer cancelled for client 15.
Radius server returns status PASS.
AAA:DYNAMIC-AUTHEN:Authentication successful.

SYSLOG: <13>0d00h25m33s:SDX1600 MAC Authentication succeeded for [0030.4874.3181
 198.19.9.105] on port 15/12
RADIUS: Reset client 15, Total number of active clients=0

Reseting RADIUS Client structure
```

sFlow debug commands

sFlow is a system for observing traffic flow patterns and quantities within and among a set of Brocade devices. The following command displays debug information related to sFlow.

debug sflow problems

Syntax: [no] **debug sflow problems**

This command enables debuggging of the internal sFlow.

```
Brocade# debug sflow problems
sflow:  problem debugging is on
```

Web debug commands

The following command displays information related to web debugging.

debug web events

Syntax: [no] **debug web events**

This command enables web events debugging.

```
Brocade# debug web events
web:  Events debugging is on
```

Web authentication debug commands

The following commands display information related to the web authentication debugging.

debug webauth events

Syntax: [no] **debug webauth events**

This command enables debugging of web authentication events.

```
Brocade# debug webauth events
webauth:  Events debugging is on
```

debug webauth timers

Syntax: [no] **debug webauth timers**

This command enables debugging of web authentication timers.

```
Brocade# debug webauth timers
webauth:  Timers debugging is on
```

Chapter

8

supportsave Information

In this chapter

supportsave overview

The supportsave is an important utility for collecting logs from the driver, internal libraries, and firmware. The collected logs are shared with the technical support personnel for investigating issues seen on the device.

NOTE
The supportsave utility is supported only on the Brocade ICX 6430 and Brocade ICX 6450 devices.

Run the commands listed in the "supportsave commands" section to collect the logs and upload them to the remote server for troubleshooting.

supportsave commands

The following **supportsave** commands are used to collect the system logs.

TFTP is disabled by default, if FIPS is enabled. Enable TFTP manually for uploading supportsave data. It is a prerequisite to have the TFTP server with a write permission and the server must be accessible from the device.

Use the **fips policy allow tftp-access** command in configuration mode to enable TFTP access while the FIPS is enabled.

supportsave

Syntax: supportsave [**os** | **platform** | **l2** | **l3** | **custom** | **core** | **all**] <*tftp server IP*> <*user_tag*>

- **os** — Collects information related to the operating system.
- **platform**—Collects information related to the platform.
- **l2**—Collects information related to Layer 2.
- **l3**—Collects information related to Layer 3.
- **custom**—Collects custom commands.
- **core**—Collects core and system log files.
- **all**—Collects all the log files.
- <*tftp server IP*>—Refers to the IP address of the TFTP server.

- <*user_tag*>—Refers to the supportsave file name. Maximum of 10 characters are allowed.

This command collects the respective logs selected and uploads them to the TFTP server.

NOTE
It is recommended to use **all** variable to collect complete logs.

```
Brocade# supportsave all 172.20.5.88
Supportsave started. This operation may take several minutes.
Press "A" to abort supportsave operation.
ICX6430-48P Supportsave completed in 10 seconds
```

supportsave

Syntax: supportsave [**show** | **cancel**]

- **show** —Displays the progress of the log collection that has been executed on a terminal other than the one on which the **supportsave** command is executed.
- **cancel**—Cancels the current log collection that has been executed on a terminal other than the one on which the **supportsave** command is executed.

This command collects, displays, or cancels the log collection that has been executed.

```
Brocade# supportsave show
Supportsave is executing commands: 19% completed
Brocade# supportsave show
Supportsave is executing commands: 34% completed
Brocade# supportsave show
Supportsave is executing commands: 60% completed
Brocade# supportsave show.
Supportsave is executing commands: 100% completed
Supportsave is transporting files...
```

supportsave add_cust_cmd index

Syntax: supportsave add_cust_cmd index <*index number*> <*"cli string"*>

This command adds a run-time executable command into the custom module at a particular index of 32 characters long (maximum of 32 characters are allowed) during the run time.

```
Brocade# supportsave add_cust_cmd index 1 "show chassis"
```

supportsave del_cust_cmd index

Syntax: supportsave del_cust_cmd index <*index number*>

This command deletes a command from the custom module at a particular index during the run time.

supportsave del_cust_cmd all

Syntax: supportsave del_cust_cmd all

This command deletes all the custom module commands.

supportsave list_cust_cmd

Syntax: supportsave list_cust_cmd

This command displays the custom module commands.

Recovery during continuous reload

Perform the following steps to collect the logs in case of continuous reload of the device on a given partition:

- Press **b** to stop reloading in boot prompt.
- Boot from the stable firmware from the other partition using *boot_primary* or *boot_secondary* options.
- Run supportsave command to collect the logs after the reload is finished with the stable firmware.
- Execute the **use default-configuration** command from the boot prompt for stopping the start up configuration during reload, and make sure the device loads successfully. Otherwise, contact the Brocade technical support for assistance.

Diagnostic Command Index

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