DIAGNOSTIC GUIDE

Ruckus FastIron Debug Command Reference, 08.0.90

Supporting FastIron Software Release 08.0.90

Part Number: 53-1005574-02
Publication Date: 17 April 2023

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Contents

Contact Information, Resources, and Conventions **9**
Contacting RUCKUS Customer Services and Support 9
What Support Do I Need? 9
Open a Case 9
Self-Service Resources 10
Document Feedback 10
RUCKUS Product Documentation Resources 10
Online Training Resources 10
Document Conventions 11
Notes, Cautions, and Safety Warnings 11
Command Syntax Conventions 11

About This Document **13**
What's new in this document 13
New and modified commands 13
New commands 13
Modified commands 13
Supported hardware 13

Using diagnostic commands **15**
Using debug commands 15
Generic debug commands 15
Brief and detail debug options 16
Disabling debug commands 16

Debug Commands A - G **17**
debug 802.1w all_802_1w_events 17
debug 802.1w messages 19
debug 802.1w timer 21
debug 802.1w transitions 22
debug bfd 23
debug bum-statistics 25
debug coa 26
debug dhcp-client alarms 27
debug dhcp-client events 28
debug dhcp-client warnings 31
debug forwarding hw-clear 32

Debug Commands H - P **33**
debug hw 33
debug igmp-snoop add-del-oif all 34
debug igmp-snoop clear 35
debug igmp-snoop error 36
debug igmp-snoop group 37
debug igmp-snoop level 38
debug igmp-snoop packet 39
debug igmp-snoop port ethernet 40
debug igmp-snoop show 41

debug igmp-snoop source....42
debug igmp-snoop timer....43
debug igmp-snoop vlan....44
debug ikev2....45
debug ip arp....58
debug ip arp inspection....59
debug ip bgp....60
debug ip bgp dampening....61
debug ip bgp events....62
debug ip bgp graceful-restart....63
debug ip bgp keepalives....64
debug ip bgp updates....65
debug ip dhcp-snooping....66
debug ip gre keepalive....67
debug ip gre log....68
debug ip gre packet....70
debug ip icmp events....71
debug ip icmp packets....72
debug ip igmp add-del-oif....73
debug ip igmp add-del-oif all....77
debug ip igmp add-del-oif stack....80
debug ip igmp clear....83
debug ip igmp down-port....84
debug ip igmp enable....87
debug ip igmp error....88
debug ip igmp group....89
debug ip igmp level....90
debug ip igmp packet....94
debug ip igmp physical-port ethernet....97
debug ip igmp prime-port ethernet....98
debug ip igmp protocol....99
debug ip igmp proxy clear....101
debug ip igmp proxy error....102
debug ip igmp proxy event....103
debug ip igmp proxy packet....104
debug ip igmp proxy rx....105
debug ip igmp proxy show....106
debug ip igmp proxy tx....107
debug ip igmp proxy vrf....108
debug ip igmp rx....109
debug ip igmp show....110
debug ip igmp source....111
debug ip igmp timer....112
debug ip igmp tx....113
debug ip igmp vrf....114
debug ip msdp....115
debug ip ntp....117
debug ip ospf....120
debug ip ospf adj....121
debug ip ospf all-vrfs route....122

debug ip ospf error ... 123
debug ip ospf event ... 124
debug ip ospf flood ... 125
debug ip ospf graceful-restart ... 126
debug ip ospf log-empty-lsa ... 128
debug ip ospf lsa-generation ... 130
debug ip ospf lsa-id ... 131
debug ip ospf max-metric ... 132
debug ip ospf packet ... 133
debug ip ospf retransmission ... 137
debug ip ospf route ... 138
debug ip ospf spf ... 139
debug ip ospf vrf ... 140
debug ip pim ... 141
debug ip pim add-del-oif ... 142
debug ip pim bootstrap ... 143
debug ip pim clear ... 144
debug ip pim control-source ... 145
debug ip pim event ... 146
debug ip pim group ... 147
debug ip pim join-prune ... 149
debug ip pim level ... 150
debug ip pim nbr-change ... 153
debug ip pim packet ... 154
debug ip pim physical-port ethernet ... 155
debug ip pim regproc ... 156
debug ip pim rp ... 157
debug ip pim show ... 158
debug ip pim source ... 159
debug ip pim vrf ... 162
debug ip pimsm-snoop ... 163
debug ip ssh ... 165
debug ip sync ... 166
debug ip source guard ... 167
debug ip tcp ... 168
debug ip tcp driver ... 171
debug ip tcp memory ... 172
debug ip tcp packet ... 173
debug ip tcp sack ... 174
debug ip tcp transactions ... 175
debug ip udp ... 176
debug ip vrrp packet ... 177
debug ip vrrp events ... 178
debug ip vrrp packet v4 ... 179
debug ip vrrp packet v6 ... 180
debug ip vrrp vrid ... 181
debug ip web ... 182
debug ip web-ssl ... 183
debug ipsec all ... 184
debug ipsec esp ... 185

debug ipsec in ... 186
debug ipsec out ... 187
debug ipsec policy ... 188
debug ipv6 ... 189
debug ipv6 dhcp relay ... 190
debug ipv6 dhcp snooping ... 191
debug ipv6 mld ... 192
debug ipv6 mld add-del-oif ... 193
debug ipv6 mld add-del-oif all ... 196
debug ipv6 mld add-del-oif stack ... 197
debug ipv6 mld clear ... 199
debug ipv6 mld detail ... 200
debug ipv6 mld enable ... 201
debug ipv6 mld error ... 202
debug ipv6 mld group ... 203
debug ipv6 mld level ... 204
debug ipv6 mld mcache-group ... 207
debug ipv6 mld phy-port ethernet ... 209
debug ipv6 mld prime-port ethernet ... 210
debug ipv6 mld protocol ... 212
debug ipv6 mld rx ... 214
debug ipv6 mld show ... 215
debug ipv6 mld source ... 216
debug ipv6 mld timer ... 217
debug ipv6 mld tx ... 218
debug ipv6 mld vlan ... 219
debug ipv6 mld vrf ... 220
debug ipv6 nd ... 221
debug ipv6 ospf ipsec ... 222
debug ipv6 ospf ism ... 223
debug ipv6 ospf ism-events ... 224
debug ipv6 ospf ism-status ... 225
debug ipv6 ospf lsa ... 226
debug ipv6 ospf lsa-flooding ... 229
debug ipv6 ospf lsa-generation ... 230
debug ipv6 ospf lsa-install ... 232
debug ipv6 ospf lsa-inter-area ... 233
debug ipv6 ospf lsa-refresh ... 234
debug ipv6 ospf nsm ... 236
debug ipv6 ospf nsm-events ... 237
debug ipv6 ospf nsm-status ... 238
debug ipv6 ospf packet ... 239
debug ipv6 ospf packet-dd ... 241
debug ipv6 ospf packet-hello ... 242
debug ipv6 ospf packet-lsa-ack ... 243
debug ipv6 ospf packet-lsa-req ... 244
debug ipv6 ospf packet-lsa-update ... 245
debug ipv6 ospf route ... 246
debug ipv6 ospf route-calc-external ... 247
debug ipv6 ospf route-calc-inter-area ... 248

debug ipv6 ospf route-calc-intra-area 249
debug ipv6 ospf route-calc-spf 250
debug ipv6 ospf route-install 251
debug ipv6 pim bootstrap 252
debug ipv6 pim clear 253
debug ipv6 pim event 254
debug ipv6 pim group 255
debug ipv6 pim join-prune 256
debug ipv6 pim nbr-change 257
debug ipv6 pim packet 258
debug ipv6 pim regproc 259
debug ipv6 pim rp 260
debug ipv6 pim show 261
debug ipv6 pim source 262
debug ipv6 pimsm-snoop 263
debug ipv6 ra 265
debug ipv6 raguard 267
debug ipv6 rip events 268
debug ipv6 rip receive 269
debug keychain 270
debug license 272
debug loop-detect 273
debug loop-detect level 274
debug mac 275
debug mac-authentication 276
debug mecid 278
debug mld-snoop add-del-oif all 280
debug mld-snoop clear 281
debug mld-snoop error 282
debug mld-snoop group 283
debug mld-snoop mcache-group 284
debug mld-snoop packet 285
debug mld-snoop show 286
debug mld-snoop timer 287
debug mstp bpdu 288
debug mstp events 290
debug mstp level 291
debug mstp msti 293
debug mstp port-level 295
debug mstp show 296
debug mstp state 297
debug mstp verbose 298
debug mvrp 299
debug packet-capture 301
debug packet-capture filter 302
debug packet-capture filter none 304
debug packet-capture filter show 305
debug packet-capture mode 306
debug port hw-state 307
debug port port 308

debug port ten-gig ... 311
debug port up-down ... 312
debug port vlan ... 314
debug pp-bum-trunk-hash ... 316
debug pp-trunk-hash ... 318

Debug Commands Q - Z ... 321
debug rip database ... 321
debug rip events ... 322
debug sflow problems ... 323
debug span all_802_1d_events ... 324
debug span config ... 325
debug span timers ... 326
debug stack pe control ... 327
debug stack pe mac ... 328
debug stack pe topo ... 329
debug system campram ... 330
debug system optics ... 331
debug system poll ... 332
debug web events ... 333
debug webauth timers ... 334
debug webauth events ... 335
show debug ... 336
show tech-support ... 337
show tech-support acl ... 342
show tech-support cluster ... 344
show tech-support cpu ... 346
show tech-support l2 ... 349
show tech-support l3 ipv4-uc ... 352
show tech-support l3 ipv6-uc ... 355
show tech-support license ... 359
show tech-support memory ... 360
show tech-support multicast ... 361
show tech-support packet-loss ... 364
supportsave ... 365
supportsave (SCP) ... 368
supportsave add_cust_cmd index ... 371
supportsave del_cust_cmd all ... 372
supportsave del_cust_cmd index ... 373
supportsave info disable ... 374
supportsave info enable ... 375
supportsave list_cust_cmd ... 378
supportsave show ... 379

Contact Information, Resources, and Conventions

- Contacting RUCKUS Customer Services and Support 9
- Document Feedback 10
- RUCKUS Product Documentation Resources 10
- Online Training Resources 10
- Document Conventions 11
- Command Syntax Conventions 11

Contacting RUCKUS Customer Services and Support

The Customer Services and Support (CSS) organization is available to provide assistance to customers with active warranties on their RUCKUS products, and customers and partners with active support contracts.

For product support information and details on contacting the Support Team, go directly to the RUCKUS Support Portal using https://support.ruckuswireless.com, or go to https://www.commscope.com/ruckus and select **Support**.

What Support Do I Need?

Technical issues are usually described in terms of priority (or severity). To determine if you need to call and open a case or access the self-service resources, use the following criteria:

- Priority 1 (P1)—Critical. Network or service is down and business is impacted. No known workaround. Go to the **Open a Case** section.
- Priority 2 (P2)—High. Network or service is impacted, but not down. Business impact may be high. Workaround may be available. Go to the **Open a Case** section.
- Priority 3 (P3)—Medium. Network or service is moderately impacted, but most business remains functional. Go to the **Self-Service Resources** section.
- Priority 4 (P4)—Low. Requests for information, product documentation, or product enhancements. Go to the **Self-Service Resources** section.

Open a Case

When your entire network is down (P1), or severely impacted (P2), call the appropriate telephone number listed below to get help:

- Continental United States: 1-855-782-5871
- Canada: 1-855-782-5871
- Europe, Middle East, Africa, Central and South America, and Asia Pacific, toll-free numbers are available at https://support.ruckuswireless.com/contact-us and Live Chat is also available.
- Worldwide toll number for our support organization. Phone charges will apply: +1-650-265-0903

We suggest that you keep a physical note of the appropriate support number in case you have an entire network outage.

Self-Service Resources

The RUCKUS Support Portal at https://support.ruckuswireless.com offers a number of tools to help you to research and resolve problems with your RUCKUS products, including:

- Technical Documentation—https://support.ruckuswireless.com/documents
- Community Forums—https://community.ruckuswireless.com
- Knowledge Base Articles—https://support.ruckuswireless.com/answers
- Software Downloads and Release Notes—https://support.ruckuswireless.com/#products_grid
- Security Bulletins—https://support.ruckuswireless.com/security

Using these resources will help you to resolve some issues, and will provide TAC with additional data from your troubleshooting analysis if you still require assistance through a support case or RMA. If you still require help, open and manage your case at https://support.ruckuswireless.com/case_management.

Document Feedback

RUCKUS is interested in improving its documentation and welcomes your comments and suggestions.

You can email your comments to RUCKUS at #Ruckus-Docs@commscope.com.

When contacting us, include the following information:

- Document title and release number
- Document part number (on the cover page)
- Page number (if appropriate)

For example:

- RUCKUS SmartZone Upgrade Guide, Release 5.0
- Part number: 800-71850-001 Rev A
- Page 7

RUCKUS Product Documentation Resources

Visit the RUCKUS website to locate related documentation for your product and additional RUCKUS resources.

Release Notes and other user documentation are available at https://support.ruckuswireless.com/documents. You can locate the documentation by product or perform a text search. Access to Release Notes requires an active support contract and a RUCKUS Support Portal user account. Other technical documentation content is available without logging in to the RUCKUS Support Portal.

White papers, data sheets, and other product documentation are available at https://www.commscope.com/ruckus .

Online Training Resources

To access a variety of online RUCKUS training modules, including free introductory courses to wireless networking essentials, site surveys, and products, visit the RUCKUS Training Portal at https://commscopeuniversity.myabsorb.com/. The registration is a two-step process described in this video. You create a CommScope account and then register for, and request access for, CommScope University.

Document Conventions

The following table lists the text conventions that are used throughout this guide.

TABLE 1 Text Conventions

Convention	Description	Example
`monospace`	Identifies command syntax examples	`device(config)# interface ethernet 1/1/6`
bold	User interface (UI) components such as screen or page names, keyboard keys, software buttons, and field names	On the **Start** menu, click **All Programs**.
italics	Publication titles	Refer to the *RUCKUS Small Cell Release Notes* for more information.

Notes, Cautions, and Safety Warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the 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 some information that you must read before continuing with the current action or task.



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



DANGER
A DANGER statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

Command Syntax Conventions

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

Convention	Description
bold text	Identifies command names, keywords, and command options.
italic text	Identifies a variable.
[ ]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{**x**| **y**| **z**}	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x|**y**	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, for example, passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, *member*[*member*...].
\	Indicates a “soft” line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

About This Document

- What's new in this document....13
- Supported hardware....13

What's new in this document

Information has been added or updated to reflect new or modified debug commands for FastIron features or enhancements.

In this release of the *Ruckus FastIron Debug Command Reference*, not all debug commands supported on the FastIron devices are represented.

For legacy commands the history table is not shown unless an update has been added in recent releases.

NOTE
In addition to debug commands that are new or modified for this release, numerous debug commands for existing FastIron features have been added that were previously described only in FastIron configuration guides.

New and modified commands

The following new and modified commands have been added in the FastIron 08.0.90 release.

New commands

- **debug bfd**
- **debug mvrp**

Modified commands

-
-
-

Supported hardware

This guide supports the following Ruckus products:

- Ruckus ICX 7750 Series
- Ruckus ICX 7650 Series
- Ruckus ICX 7450 Series
- Ruckus ICX 7250 Series
- Ruckus ICX 7150 Series

For information about what models and modules these devices support, see the hardware installation guide for the specific product family.

Using diagnostic commands

- Using debug commands..... 15
- Generic debug commands..... 15

Using debug commands

This chapter describes how to use debug commands to monitor and troubleshoot the device configurations. The debug commands are accessible from the Privileged EXEC mode in the Ruckus command line interface (CLI). Most 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 Ruckus 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 Ruckus engineering staff. These commands are not described in this document.

Generic debug commands

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

- **debug ?** - Generates a list of debug options.
- **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 ?**

The **debug ?** 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.

```
device# debug vlan?
vlan Enable/Disable VLAN debug
```

show debug

Syntax: **show debug**

This command displays all the enabled debug functions. The output resembles the following example, which shows that VLAN debugging is enabled, with the console as the output destination.

```
device# show debug
Debug message destination: Console
VLAN
VLAN: debugging is on
```

debug destination

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

This command displays all the enabled debug functions. The output resembles the following example, which shows that VLAN debugging is enabled, with the console as the output destination.

- console - Directs output to the system console.
- logging - Directs output to the syslog buffer and to the syslog server (default).
- telnet num - Directs debugging output to a specified Telnet session (a number from 1 through 5).
- ssh num - Directs debugging output to a specified SSH session (a number 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.

```
device# 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.

```
device# debug destination telnet 1
```

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.

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.

Debug Commands A - G

debug 802.1w all_802_1w_events

Debugs all the RSTP transactions, timers, and packets on a specific VLAN.

Syntax

debug 802.1w all_802_1w_events *decimal*

Parameters

decimal

Refers to the number of the VLAN.

Modes

Privileged EXEC mode

Examples

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

```
device# debug 802.1w all_802_1w_events vlan 2
RSTP Enabling All events Debugging for VLAN 2
device# 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, output similar to the following is displayed.

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

debug 802.1w messages

Displays BPDU information on a VLAN.

Syntax

debug 802.1w messages vlan *decimal*

no debug 802.1w messages vlan *decimal*

Parameters

decimal

Refers to the number of the VLAN.

Modes

Privileged EXEC mode

Examples

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

```
device# debug 802.1w messages vlan 2
RSTP Enabling packets Debugging for VLAN 2
device# 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
device# 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, output similar to the following is displayed.

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

debug 802.1w timer

Debugs the RSTP (802.1w) timer expiration.

Syntax

debug 802.1w timer vlan *decimal*

no debug 802.1w timer vlan *decimal*

Parameters

decimal

Refers to the number of the VLAN.

Modes

Privileged EXEC mode

Examples

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

```
device# debug 802.1w timer vlan 2
device# 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, output similar to the following is displayed.

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

debug 802.1w transitions

Debugs the RSTP state machine transitions.

Syntax

debug 802.1w transitions vlan *decimal*

no debug 802.1w transitions vlan *decimal*

Parameters

decimal

Refers to the number of the VLAN.

Modes

Privileged EXEC mode

Examples

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

```
device# debug 802.1w transitions vlan 2
RSTP Enabling Events Debugging for VLAN 2
device# 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, output similar to the following is displayed.

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

debug bfd

Displays debugging information about Bidirectional Forwarding Detection (BFD).

Syntax

debug bfd all

debug bfd application

debug bfd arp-nbr

debug bfd clear

debug bfd error

debug bfd event

debug bfd ha

debug bfd holdtime

debug bfd ip-addr *ip-address*

debug bfd ipc

debug bfd ipv6-addr *ipv6-address*

debug bfd issu

debug bfd itc

debug bfd ptimer

debug bfd session-id *session-id*

debug bfd state

debug bfd vrf *vrf-name*

Parameters

all

Displays debugging information about all BFD events.

application

Displays debugging information about BFD applications.

arb-nbr

Displays debugging information about Address Resolution Protocol (ARP) and neighbor changes.

clear

Displays debugging information about clear BFD settings.

error

Displays debugging information about BFD errors encountered.

event

Displays debugging information about BFD events.

ha
Displays debugging information about HA and stack-related processing.

holdtime
Displays debugging information about BFD holdtime.

ip-addr *ip-address*
Displays debugging information about BFD for the specified IP address.

ipc
Displays debugging information about BFD interprocess communication (IPC) activities.

ipv6-addr *ipv6-address*
Displays debugging information about BFD for the specified IPv6 address.

itc
Displays debugging information about BFD inter-task communication (ITC) activities.

ptimer
Displays debugging information about internal BFD timers.

session-id
Displays debugging information about a specified BFD session.

state
Displays debugging information about the BFD state.

vrf *vrf-id*
Displays debugging information about BFD for the specified VRF.

Modes

Privileged EXEC mode

Examples

The following example displays debugging information about the BFD holdtime.

```
device# debug bfd holdtime
BFD:  holdtime debugging is on
```

The following example displays debugging information about BFD events.

```
device# debug bfd event
  BFD:  event debugging is on
```

History

Release version	Command history
08.0.90	This command was introduced.

debug bum-statistics

Enables BUM rate limit statistics debugging.

Syntax

debug bum-statistics *unit/slot/port bum-type*

no debug bum-statistics *unit/slot/port bum-type*

Parameters

unit/slot/port

Specifies the interface.

bum-type

Specifies the number that indicates the traffic type.

Modes

Privileged EXEC mode

Usage Guidelines

The **no** form of the command disables BUM rate limit statistics debugging.

Examples

The following example enables BUM rate limit statistics debugging.

```
device#debug bum-statistics 1/3/2 0
 Port-id : 1/3/2 BUM-type: BROADCAST
 Unit-num: 1 Traffic Policy: 64-tp_129_0

device#debug bum-statistics 1/3/2 1
 Port-id : 1/3/2 BUM-type: L2_MULTICAST
 Unit-num: 1 Traffic Policy: 64-tp_129_1
 Port-id : 1/3/2 BUM-type: L3_MULTICAST
 Unit-num: 1 Traffic Policy: 64-tp_129_3

device#debug bum-statistics 1/3/2 2
 Port-id : 1/3/2 BUM-type: UNKNOWN_UNICAST
 Unit-num: 1 Traffic Policy: 64-tp_129_2
```

debug coa

Enables debugging of Change of Authorization (COA) messages.

Syntax

debug coa

undebug coa

Modes

Privileged EXEC mode

Usage Guidelines

Examples

The following example enables debugging of COA messages.

```
device# debug coa
```

debug dhcp-client alarms

Displays the debugging information of the Dynamic Host Configuration Protocol (DHCP) client on a particular port ID.

Syntax

debug dhcp-client alarms

no debug dhcp-client alarms

Modes

Privileged EXEC mode

Examples

The following example displays information related to the debugging of the DHCP client on a particular port ID.

```
device# 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"
```

History

Release version	Command history
08.0.80	This command was modified to include information in the output for option 67 enhancements where both the image type and flash location are specified by the user.

debug dhcp-client events

Displays debugging information about Dynamic Host Configuration Protocol (DHCP) client events related to configuration.

Syntax

debug dhcp-client events

no debug dhcp-client events

Modes

Privileged EXEC mode

Examples

The following example displays debugging information about DHCP client events related to the configuration.

```
device# 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"
```

History

Release version	Command history
08.0.80	This command was modified to include information in the output for option 67 enhancements where both the image type and flash location are specified by the user.

debug dhcp-client warnings

Displays debugging information about the Dynamic Host Configuration Protocol (DHCP) client.

Syntax

debug dhcp-client warnings

no debug dhcp-client warnings

Modes

Privileged EXEC mode

Examples

The following example displays debugging information related to DHCP client warnings.

```
device# debug dhcp-client warnings
```

History

Release version	Command history
08.0.80	This command was modified to include information in the output for option 67 enhancements where both the image type and flash location are specified by the user.

debug forwarding hw-clear

Debugs the events which trigger MAC clear in hardware.

Syntax

debug forwarding hw-clear{**debug-enable**|**disable** |**timer**|}

no debug forwarding hw-clear{**debug-enable**|**disable** |**timer**|}

Parameters

debug-enable

Enables debugging of the events which trigger MAC clear in hardware in MCT scenario, port down scenario, and so on.

disable

Specifies MAC clear disable debugging.

timer

Resets the timer associated debug prints of clear mac debugs.

Modes

Privileged EXEC mode

Usage Guidelines

The **no** form of the command disables debugging of MAC clear in hardware.

Examples

The following example enables debugging of the events which trigger MAC clear in hardware.

```
device#debug forwarding hw-clear debug-enable
```

Debug Commands H - P

debug hw

Enables the hardware backplane debugging feature in a device.

Syntax

debug hw

no debug hw

Examples

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

debug igmp-snoop add-del-oif all

Displays information about the addition or deletion of all outgoing interfaces (OIFs).

Syntax

debug igmp-snoop add-del-oif all

no debug igmp-snoop add-del-oif all

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop add-del-oif all
Del e1/1/23 from (0.0.0.0, 228.1.1.10) vlan 130
Del e1/1/23 from (0.0.0.0, 228.1.1.9) vlan 130
Del e1/1/23 from (0.0.0.0, 228.1.1.8) vlan 130
Add e1/1/23 to (0.0.0.0, 228.1.1.8) vlan 130
Add e1/1/23 to (0.0.0.0, 228.1.1.9) vlan 130
Add e1/1/23 to (0.0.0.0, 228.1.1.10) vlan 130
```

debug igmp-snoop clear

Clears all the IGMP snooping debug settings.

Syntax

debug igmp-snoop clear

no debug igmp-snoop clear

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop clear
```

debug igmp-snoop error

Displays the IGMP snooping multicast error messages.

Syntax

debug igmp-snoop error

no debug igmp-snoop error

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop error
IGMP: Error : Ignoring IGMP version 3 Report pkt due to version mismatch , pkt
S=10.13.13.2 to 224.0.0.22, on VL130 (phy e1/1/2), igmp_size=16
IGMP: Error : Ignoring IGMP version 3 Report pkt due to version mismatch , pkt
S=10.13.13.2 to 224.0.0.22, on VL130 (phy e1/1/2), igmp_size=16
IGMP: Error : Ignoring IGMP version 3 Report pkt due to version mismatch , pkt
S=10.13.13.2 to 224.0.0.22, on VL130 (phy e1/1/2), igmp_size=16
```

debug igmp-snoop group

Displays the IGMP snooping multicast group information.

Syntax

debug igmp-snoop group *group_address*

no debug igmp-snoop group *group_address*

Parameters

group_address

Specifies the address of the IGMP snoop multicast group.

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop group 230.1.1.1
IGMP: rcvd Report-V2(t=22) g=230.1.1.1 resp=0, pkt S=10.85.1.3 to 230.1.1.1, on
VL100 (phy e1/1/48), igmp_size=8
```

debug igmp-snoop level

Sets the debugging level of IGMP snooping activity.

Syntax

debug igmp-snoop level *decimal*

no debug igmp-snoop level *decimal*

Parameters

decimal

Specifies the debugging level of IGMP snooping activity and it can take values from 1 through 3.

Modes

Privileged EXEC mode

Usage Guidelines

Level 3 displays more information than level 2, and level 0 displays no information.

Examples

```
device# debug igmp-snoop level 1
igmpsnoop debug level = 1
IGMP: rcvd Query(t=17) V2 g=0.0.0.0 resp=100, pkt S=10.1.15.1 to 224.0.0.1, on
VL100 (phy e3/1/6), igmp_size=8
device# debug igmp-snoop level 3
igmpsnoop debug level = 3
device# Add e1/1/2 to (0.0.0.0, 228.228.0.1) vlan 275
Add e1/1/2 to (0.0.0.0, 228.228.0.2) vlan 275
Add e1/1/2 to (0.0.0.0, 228.228.0.3) vlan 275
device# Del e1/1/2 from (0.0.0.0, 228.228.0.3) vlan 275
Del e1/1/2 from (0.0.0.0, 228.228.0.2) vlan 275
Del e1/1/2 from (0.0.0.0, 228.228.0.1) vlan 275
Del e1/1/12 from (0.0.0.0, 228.228.0.3) vlan 275
Del e1/1/2 from (0.0.0.0, 228.228.0.1) vlan 275
```

debug igmp-snoop packet

Displays debugging information related to the IGMP snoop packets.

Syntax

debug igmp-snoop packet *source_address group_address*

no debug igmp-snoop packet *source_address group_address*

Parameters

source_address

Specifies the source address of the IGMP snoop packet.

group_address

Specifies the address of the IGMP snoop multicast group.

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop packet 10.13.13.3 228.1.1.2
debug ip igmpsnoop packet S=10.13.13.3 G=228.1.1.2
rtr_l2mcast_fwd_data (pkts:1), (10.13.13.3 228.1.1.2), from e1/1/1 vlan 130, has
fwd_entry
rtr_l2mcast_fwd_data (pkts:1), (10.13.13.3 228.1.1.2), from e1/1/1 vlan 130,
clear hw_aging flag
```

debug igmp-snoop port ethernet

Displays the IGMP snooping related debug information for the specified Ethernet interface.

Syntax

debug igmp-snoop port ethernet *num*

no debug igmp-snoop port ethernet *num*

Parameters

num

Specifies the stack ID, slot number, and port number of a specific Ethernet port.

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop port ethernet 1/1/2
IGMP: rcvd Report-V2(t=22) g=228.1.1.6 resp=0, pkt S=10.13.13.2 to 228.1.1.6, on
VL130 (phy e1/1/2), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=228.1.1.8 resp=0, pkt S=10.13.13.2 to 228.1.1.8, on
VL130 (phy e1/1/2), igmp_size=8
```

debug igmp-snoop show

Displays all the IGMP snooping debug settings.

Syntax

debug igmp-snoop show

no debug igmp-snoop show

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop show
igmp debug-enable-any = 1
debug igmpsnoop is enabled
IGMP: rcvd Query(t=17) V2 g=0.0.0.0 resp=100, pkt S=10.1.15.1 to 224.0.0.1, on
VL100 (phy e3/1/6), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=230.1.1.12 resp=0, pkt S=10.85.1.3 to 230.1.1.12, on
VL100 (phy e1/1/48), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=230.1.4.148 resp=0, pkt S=10.85.1.3 to 230.1.4.148,
on VL100 (phy e1/1/48), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=230.1.2.22 resp=0, pkt S=10.85.1.3 to 230.1.2.22, on
VL100 (phy e1/1/48), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=230.1.1.92 resp=0, pkt S=10.85.1.3 to 230.1.1.92, on
VL100 (phy e1/1/48), igmp_size=8
```

debug igmp-snoop source

Displays the IGMP snooping related debug information for the specified source address

Syntax

debug igmp-snoop source *source_address*

no debug igmp-snoop source *source_address*

Parameters

source_address

Specifies the source address.

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop source 10.13.13.2
IGMP: rcvd Report-V2(t=22) g=228.1.1.6 resp=0, pkt S=10.13.13.2 to 228.1.1.6, on
VL130 (phy e1/1/2), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=228.1.1.8 resp=0, pkt S=10.13.13.2 to 228.1.1.8, on
VL130 (phy e1/1/2), igmp_size=8
```

debug igmp-snoop timer

Displays information about the IGMP snooping related timer events.

Syntax

debug igmp-snoop timer

no debug igmp-snoop timer

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop timer
device# debug igmp-snoop prime-port eth 1/1/2
igmp timer, VL130(e1/1/2) change V1 client age out
igmp timer, E401010A VL130(e1/1/2) switch back to include mode
igmp timer, E4010109 VL130(e1/1/2) switch back to include mode
igmp timer, E4010108 VL130(e1/1/2) switch back to include mode
```

debug igmp-snoop vlan

Displays the IGMP snooping related debug information for the specified VLAN ID.

Syntax

debug igmp-snoop vlan *vlan_id*

no debug igmp-snoop vlan *vlan_id*

Parameters

vlan_id

Specifies the VLAN ID.

Modes

Privileged EXEC mode

Examples

```
device# debug igmp-snoop vlan 100
igmpsnoop monitor vlan 100
IGMP: rcvd Report-V2(t=22) g=230.1.1.110 resp=0, pkt S=10.85.1.3 to 230.1.1.110,
on VL100 (phy e1/1/48), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=230.1.2.52 resp=0, pkt S=10.85.1.3 to 230.1.2.52, on
VL100 (phy e1/1/48), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=230.1.3.133 resp=0, pkt S=10.85.1.3 to 230.1.3.133,
on VL100 (phy e1/1/48), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=230.1.2.203 resp=0, pkt S=10.85.1.3 to 230.1.2.203,
on VL100 (phy e1/1/48), igmp_size=8
IGMP: rcvd Report-V2(t=22) g=230.1.1.151 resp=0, pkt S=10.85.1.3 to 230.1.1.151,
on VL100 (phy e1/1/48), igmp_size=8
```

debug ikev2

Enables IKEv2 debugging.

Syntax

debug ikev2 { **all** | **error** | **event** | **packet** [**detail** | **receive** | **send**] | **peer** *ip-address* | **trace** [**info**] }

no debug ikev2 { **all** | **error** | **event** | **packet** [**detail** | **receive** | **send**] | **peer** *ip-address* | **trace** [**info**] }

Parameters

all
Enables debugging of all IKEv2 instances.

error
Enables IKEv2 error debugging.

event
Enables IKEv2 event debugging.

packet
Enables IKEv2 packet debugging.

detail
Enables detailed IKEv2 packet debugging.

receive
Enables IKEv2 receive packet debugging.

send
Enables IKEv2 send packet debugging.

peer *ip-address*
Enables IKEv2 peer debugging to filter messages for a specific peer.

trace
Enables IKEv2 trace debugging.

info
Enables IKEv2 trace debugging information.

Modes

Privileged EXEC mode

Examples

The following command debugs IKEv2 event during tunnel down and rekeying.

```
device# debug ikev2 event

Debug: Mar 13 20:14:08 IKE: ipike_isakmp_resend_tmo_cb() :: for tunnel 44
Debug: Mar 13 20:14:39 IKE: ipike_ipsec_sadb_sa_rekey() :: rekey timeout for IPsec SA 0x1224
```

The following command debugs IKEv2 error during mismatch in algorithms.

```
device# debug ikev2 error

IKEV2: ike error is enabled
Debug: Mar 13 20:14:08 IKE: ipike_isakmp_resend_tmo_cb() :: for tunnel 44
Debug: Mar 13 20:14:39 IKE: ipike_ipsec_sadb_sa_rekey() :: rekey timeout for IPsec SA 0x1224Debug: Mar
13 20:14:08
IKE: ipike_isakmp_resend_tmo_cb() :: for tunnel 44
Debug: Mar 13 20:14:39 IKE: ipike_ipsec_sadb_sa_rekey() :: rekey timeout for IPsec SA 0x1224
Debug: Mar 13 20:21:39 IKE: ipike_payload_notify_process_error() :: exchange rejected with
NO_PROPOSAL_CHOSEN for tunnel 31
Debug: Mar 13 20:21:39 IKE: ipike_exchange_sa_init_on_delete() :: the exchange was not finished,
removing (incomplete)
IKE SA for tunnel 31
Debug: Mar 13 20:21:44 IKE: ipike_policy_select_sa_param: no proposal was accepted
Debug: Mar 13 20:21:44 IKE: ipike_exchange_sa_init_on_delete() :: the exchange was not finished,
removing (incomplete)
IKE SA for tunnel 31
Debug: Mar 13 20:21:49 IKE: ipike_payload_notify_process_error() :: exchange rejected with
NO_PROPOSAL_CHOSEN for tunnel 31
Debug: Mar 13 20:21:49 IKE: ipike_exchange_sa_init_on_delete() :: the exchange was not finished,
removing (incomplete)
IKE SA for tunnel 31
Debug: Mar 13 20:21:54 IKE: ike_wr_policy_accept_id return 1
```

The following command debugs IKEv2 trace.

```
device# debug ikev2 trace

Debug: Mar 13 20:28:40 IKE: Locking IKE SA (ref count 1)
Debug: Mar 13 20:28:40 IKE:     initiator cookie: 0xe6e53f1404a54b7c
Debug: Mar 13 20:28:40 IKE:     responder cookie: 0xf81e5e7816388386
Debug: Mar 13 20:28:40 IKE: Locking IKE SA (ref count 2)
Debug: Mar 13 20:28:40 IKE:     initiator cookie: 0xe6e53f1404a54b7c
Debug: Mar 13 20:28:40 IKE:     responder cookie: 0xf81e5e7816388386
Debug: Mar 13 20:28:40 IKE: ipike_isakmp_hash_obj_cookie() :: hash key: id=721, type=37, init=1 -> val
= 816f120f
Debug: Mar 13 20:28:40 IKE: ipike_isakmp_hash_add() :: hash: id=721, type=37, init=1, phase1=0
Debug: Mar 13 20:28:40 IKE: Sending request to 103.1.1.2 [500]
Debug: Mar 13 20:28:40 IKE: Message encrypted 88 bytes
Debug: Mar 13 20:28:40 IKE: Send 88 octets from 106.1.1.1:500 to 103.1.1.2:500
Debug: Mar 13 20:28:40 IKE: Releasing IKE SA (ref count 1), for tunnel 2
Debug: Mar 13 20:28:40 IKE:     initiator cookie: 0xe6e53f1404a54b7c
Debug: Mar 13 20:28:40 IKE:     responder cookie: 0xf81e5e7816388386
Debug: Mar 13 20:28:40 IKE: Locking IKE SA (ref count 1)
Debug: Mar 13 20:28:40 IKE:     initiator cookie: 0xb23c157874ab5638
Debug: Mar 13 20:28:40 IKE:     responder cookie: 0x599cb6a1a4d3d0fb
Debug: Mar 13 20:28:40 IKE: Releasing IKE SA (ref count 0), for tunnel 17
Debug: Mar 13 20:28:40 IKE:     initiator cookie: 0xb23c157874ab5638
Debug: Mar 13 20:28:40 IKE:     responder cookie: 0x599cb6a1a4d3d0fb
Debug: Mar 13 20:28:40 ike ipv4 packet received with src 103.1.1.2 and dest 106.1.1.1 vrf 0 length 88
Debug: Mar 13 20:28:40 IKE: ipike_isakmp_hash_get_from_cookie() :: hash key: id=721, type=37, init=1
Debug: Mar 13 20:28:40 IKE: Message decrypted 88 bytes
Debug: Mar 13 20:28:40 IKE: ipike_check_payloads() :: no payloads exist according to the ISAKMP header
Debug: Mar 13 20:28:40 IKE: ipike_isakmp_process_message_response() :: destroying completed exchange
Debug: Mar 13 20:28:40 IKE: ipike_isakmp_free_exchange() :: exchange 193/1/9 type - INFORMATIONAL
Debug: Mar 13 20:28:40 IKE: ipike_isakmp_hash_obj_cookie() :: hash key: id=0, type=0, init=0 -> val =
816f120f
Debug: Mar 13 20:28:40 IKE: Releasing IKE SA (ref count 0), for tunnel 2
Debug: Mar 13 20:28:40 IKE:     initiator cookie: 0xe6e53f1404a54b7c
Debug: Mar 13 20:28:40 IKE:     responder cookie: 0xf81e5e7816388386
```

The following command debugs IKEv2 trace info.

```
device# debug ikev2 trace info

IKEV2: trace info is enabled
DUT1#Debug: Mar 13 20:27:18 IKE: Received response 18.18.18.2[500], INFORMATIONAL, #2(2), ID 2da
Debug: Mar 13 20:27:18 IKE: informational exchange done
Debug: Mar 13 20:27:18 IKE: Received response 13.13.13.2[500], INFORMATIONAL, #2(2), ID 2
Debug: Mar 13 20:27:18 IKE: informational exchange done
Debug: Mar 13 20:27:18 IKE: Received response 4.4.4.2[500], INFORMATIONAL, #2(2), ID 2bc
Debug: Mar 13 20:27:18 IKE: informational exchange done
Debug: Mar 13 20:27:28 IKE: Received response 22.22.22.2[500], INFORMATIONAL, #2(2), ID 2de
Debug: Mar 13 20:27:28 IKE: informational exchange done
Debug: Mar 13 20:27:28 IKE: Received response 2.2.2.2[500], INFORMATIONAL, #2(2), ID 2c7
Debug: Mar 13 20:27:28 IKE: informational exchange done
```

The following command debugs IKEv2 packet.

```
device# debug ikev2 packet

IKEV2:  packet debugging is on
Debug: Mar 13 20:29:26 ike ipv4 packet received with src 122.1.1.2 and dest 120.1.1.1 vrf 3 length 88
Debug: Mar 13 20:29:26 ike_transmit_packet send packet to 122.1.1.2:500 from 120.1.1.1:500 vrf:3 length
88
Debug: Mar 13 20:29:26 IKE sub task: packet transmitted to 122.1.1.2
Debug: Mar 13 20:29:37 ike ipv4 packet received with src 102.1.1.2 and dest 100.1.1.1 vrf 0 length 88
Debug: Mar 13 20:29:37 ike_transmit_packet send packet to 102.1.1.2:500 from 100.1.1.1:500 vrf:0 length
88
Debug: Mar 13 20:29:37 IKE sub task: packet transmitted to 102.1.1.2
Debug: Mar 13 20:29:41 ike_transmit_packet send packet to 12.12.12.2:500 from 12.12.12.1:500 vrf:0
length 88
Debug: Mar 13 20:29:41 IKE sub task: packet transmitted to 12.12.12.2
Debug: Mar 13 20:29:41 ike ipv4 packet received with src 12.12.12.2 and dest 12.12.12.1 vrf 0 length 88
Debug: Mar 13 20:29:58 IKE: Create notify payload with message type 16393
Debug: Mar 13 20:29:58 IKE: Create notify payload with message type 16394
Debug: Mar 13 20:29:58 ike_transmit_packet send packet to 20.20.20.2:500 from 20.20.20.1:500 vrf:0
length 248
Debug: Mar 13 20:29:58 IKE sub task: packet transmitted to 20.20.20.2
Debug: Mar 13 20:29:58 ike ipv4 packet received with src 20.20.20.2 and dest 20.20.20.1 vrf 0 length 248
Debug: Mar 13 20:29:58 IKE: Process initial contact notify payload for tunnel 20
Debug: Mar 13 20:29:58 ike_transmit_packet send packet to 20.20.20.2:500 from 20.20.20.1:500 vrf:0
length 88
Debug: Mar 13 20:29:58 IKE sub task: packet transmitted to 20.20.20.2
Debug: Mar 13 20:29:58 ike ipv4 packet received with src 20.20.20.2 and dest 20.20.20.1 vrf 0 length 88
Debug: Mar 13 20:29:58 ike ipv4 packet received with src 20.20.20.2 and dest 20.20.20.1 vrf 0 length 88
Debug: Mar 13 20:29:58 ike_transmit_packet send packet to 20.20.20.2:500 from 20.20.20.1:500 vrf:0
length 88
Debug: Mar 13 20:29:58 IKE sub task: packet transmitted to 20.20.20.2
```

The following command debugs IKEv2 send packet.

```
device# debug ikev2 packet send

Debug: Mar 13 20:30:53 ike_transmit_packet send packet to 19.19.19.2:500 from 19.19.19.1:500 vrf:0
length 88
```

The following command debugs IKEv2 receive packet.

```
device# debug ikev2 packet receive

Debug: Debug: Mar 13 20:31:32 ike ipv4 packet received with src 13.13.13.2 and dest 13.13.13.1 vrf 0
length 80
Debug: Mar 13 20:32:10 ike ipv4 packet received with src 122.1.1.2 and dest 120.1.1.1 vrf 3 length 88
Debug: Mar 13 20:32:11 ike ipv4 packet received with src 122.1.1.2 and dest 120.1.1.1 vrf 3 length 88
Debug: Mar 13 20:32:26 ike ipv4 packet received with src 18.18.18.2 and dest 18.18.18.1 vrf 0 length 88
Debug: Mar 13 20:32:26 ike ipv4 packet received with src 4.4.4.2 and dest 4.4.4.1 vrf 0 length 88
```

The following command debugs IKEv2 packets in detail.

```
device# debug ikev2 packet detail

Debug: Mar 13 20:33:17 +++ ISAKMP package start (message # 1) +++
Debug: Mar 13 20:33:17   < IKE Header >
Debug: Mar 13 20:33:17   IKE_SA Initiator's SPI: 0x333aa6c1ea301ed5
Debug: Mar 13 20:33:17   IKE_SA Responder's SPI: 0xb311338eb36cd7de
Debug: Mar 13 20:33:17   Next Payload:     none (0)
Debug: Mar 13 20:33:17   Version:          2.0
Debug: Mar 13 20:33:17   Exchange Type:    INFORMATIONAL
Debug: Mar 13 20:33:17   Flags:            [ INITIATOR ]
Debug: Mar 13 20:33:17   Message ID:       684
Debug: Mar 13 20:33:17   Length:           28 (#x)
Debug: Mar 13 20:33:17 --- ISAKMP package end (message # 1) ---
Debug: Mar 13 20:33:17 +++ ISAKMP package start (message # 2) +++
Debug: Mar 13 20:33:17   < IKE Header >
Debug: Mar 13 20:33:17   IKE_SA Initiator's SPI: 0x333aa6c1ea301ed5
Debug: Mar 13 20:33:17   IKE_SA Responder's SPI: 0xb311338eb36cd7de
Debug: Mar 13 20:33:17   Next Payload:     none (0)
Debug: Mar 13 20:33:17   Version:          2.0
Debug: Mar 13 20:33:17   Exchange Type:    INFORMATIONAL
Debug: Mar 13 20:33:17   Flags:            [ RESPONSE ]
Debug: Mar 13 20:33:17   Message ID:       684
Debug: Mar 13 20:33:17   Length:           28 (#x)
Debug: Mar 13 20:33:17 --- ISAKMP package end (message # 2) ---
Debug: Mar 13 20:33:23 +++ ISAKMP package start (message # 1) +++
Debug: Mar 13 20:33:23   < IKE Header >
Debug: Mar 13 20:33:23   IKE_SA Initiator's SPI: 0x506e28a9b3870d90
Debug: Mar 13 20:33:23   IKE_SA Responder's SPI: 0xb860b97a5b1995b8
Debug: Mar 13 20:33:23   Next Payload:     none (0)
Debug: Mar 13 20:33:23   Version:          2.0
Debug: Mar 13 20:33:23   Exchange Type:    INFORMATIONAL
Debug: Mar 13 20:33:23   Flags:            [ ]
Debug: Mar 13 20:33:23   Message ID:       2
Debug: Mar 13 20:33:23   Length:           28 (#x)
```

The following command debugs all IKEv2 instances.

```
device# debug ikev2 all

Debug: Mar 13 20:38:39 ike ipv4 packet received with src 102.1.1.2 and dest 100.1.1.1 vrf 0 length 88
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_get_from_cookie() :: hash key: id=6, type=37, init=0
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_get_from_cookie() :: hash key: id=6, type=37, init=0
Debug: Mar 13 20:38:39 IKE: New exchange started (INFORMATIONAL with Message ID: 6)
Debug: Mar 13 20:38:39 IKE: Locking IKE SA (ref count 1)
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_lookup_config() :: Found IKE SA in SADB database, id=tunnel44,
looking up in config database
Debug: Mar 13 20:38:39 IKE: Releasing IKE SA (ref count 0), for tunnel 44
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_lookup_config() :: Found IKE SA configuration based on SADB
entry
Debug: Mar 13 20:38:39 IKE: Locking IKE SA (ref count 1)
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_lookup_config() :: Found IKE SA in SADB database, id=tunnel44,
looking up in config database
Debug: Mar 13 20:38:39 IKE: Releasing IKE SA (ref count 0), for tunnel 44
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_lookup_config() :: Found IKE SA configuration based on SADB
entry
Debug: Mar 13 20:38:39 IKE: Locking IKE SA (ref count 1)
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_obj_cookie() :: hash key: id=6, type=37, init=0 -> val =
f2d6968f
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_add() :: hash: id=6, type=37, init=0, phase1=0
Debug: Mar 13 20:38:39 IKE: Received request 102.1.1.2[500], INFORMATIONAL, #1(2), ID 6
Debug: Mar 13 20:38:39 IKE: Message decrypted 88 bytes
Debug: Mar 13 20:38:39 +++ ISAKMP package start (message # 1) +++
Debug: Mar 13 20:38:39   < IKE Header >
Debug: Mar 13 20:38:39   IKE_SA Initiator's SPI: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39   IKE_SA Responder's SPI: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39   Next Payload:     delete (42)
Debug: Mar 13 20:38:39   Version:          2.0
Debug: Mar 13 20:38:39   Exchange Type:    INFORMATIONAL
Debug: Mar 13 20:38:39   Flags:            [ INITIATOR ]
Debug: Mar 13 20:38:39   Message ID:       6
Debug: Mar 13 20:38:39   Length:           40 (#x)
Debug: Mar 13 20:38:39 IKE:   < delete >
Debug: Mar 13 20:38:39 IKE:       Next Payload: none (0)
Debug: Mar 13 20:38:39 IKE:     Payload Length: 12 (#x)
Debug: Mar 13 20:38:39 IKE:     protocol ID: IPSEC_ESP
Debug: Mar 13 20:38:39 IKE:     SPI 1: 00001748
Debug: Mar 13 20:38:39 --- ISAKMP package end (message # 1) ---
Debug: Mar 13 20:38:39 IKE: Deleting IPsec SA
Debug: Mar 13 20:38:39 IKE: Deleting IPsec SA
Debug: Mar 13 20:38:39 IKE: Sending response to 102.1.1.2 [500]
Debug: Mar 13 20:38:39 +++ ISAKMP package start (message # 2) +++
Debug: Mar 13 20:38:39   < IKE Header >
Debug: Mar 13 20:38:39   IKE_SA Initiator's SPI: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39   IKE_SA Responder's SPI: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39   Next Payload:     delete (42)
Debug: Mar 13 20:38:39   Version:          2.0
Debug: Mar 13 20:38:39   Exchange Type:    INFORMATIONAL
Debug: Mar 13 20:38:39   Flags:            [ RESPONSE ]
Debug: Mar 13 20:38:39   Message ID:       6
Debug: Mar 13 20:38:39   Length:           40 (#x)
Debug: Mar 13 20:38:39 IKE:   < delete >
Debug: Mar 13 20:38:39 IKE:       Next Payload: none (0)
Debug: Mar 13 20:38:39 IKE:     Payload Length: 12 (#x)
Debug: Mar 13 20:38:39 IKE:     protocol ID: IPSEC_ESP
Debug: Mar 13 20:38:39 IKE:     SPI 1: 00000b81
Debug: Mar 13 20:38:39 --- ISAKMP package end (message # 2) ---
```

```
Debug: Mar 13 20:38:39 IKE: Sending message 102.1.1.2[500]: INFORMATIONAL, #2(2), ID 6
Debug: Mar 13 20:38:39 IKE: Message encrypted 88 bytes
Debug: Mar 13 20:38:39 IKE: Send 88 octets from 100.1.1.1:500 to 102.1.1.2:500
Debug: Mar 13 20:38:39 IKE: informational exchange done
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_add_ipsec_negotiation() :: Adding IPsec negotiation for
'tunnel44'
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_add_ipsec_negotiation() :: looking up IKE SA based on addresses
Debug: Mar 13 20:38:39 IKE:          local address: 100.1.1.1
Debug: Mar 13 20:38:39 IKE:          remote address: 102.1.1.2
Debug: Mar 13 20:38:39 IKE: Locking IKE SA (ref count 2)
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_add_ipsec_negotiation() :: ipsec sa will not be started by
responder for tunnel 44
Debug: Mar 13 20:38:39 IKE: Releasing IKE SA (ref count 1), for tunnel 44
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_dispatch_start_sa_negotiation() :: failed to start IPSec negotiation
(tunnel44_0)

SYSLOG: <14> Mar 13 20:38:39 DUT1 IPsec: IPSec session down Source 102.1.1.2 Destination 100.1.1.1 VRF
0 SPI 0xb81 Direction Ingress

SYSLOG: <14> Mar 13 20:38:39 DUT1 IPsec: IPSec session down Source 100.1.1.1 Destination 102.1.1.2 VRF
0 SPI 0x1748 Direction Egress
Debug: Mar 13 20:38:39 ike ipv4 packet received with src 102.1.1.2 and dest 100.1.1.1 vrf 0 length 88
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_get_from_cookie() :: hash key: id=7, type=37, init=0
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_get_from_cookie() :: hash key: id=7, type=37, init=0
Debug: Mar 13 20:38:39 IKE: New exchange started (INFORMATIONAL with Message ID: 7)
Debug: Mar 13 20:38:39 IKE: Locking IKE SA (ref count 2)
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_lookup_config() :: Found IKE SA in SADB database, id=tunnel44,
looking up in config database
Debug: Mar 13 20:38:39 IKE: Releasing IKE SA (ref count 1), for tunnel 44
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_lookup_config() :: Found IKE SA configuration based on SADB
entry
Debug: Mar 13 20:38:39 IKE: Locking IKE SA (ref count 2)
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_lookup_config() :: Found IKE SA in SADB database, id=tunnel44,
looking up in config database
Debug: Mar 13 20:38:39 IKE: Releasing IKE SA (ref count 1), for tunnel 44
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_lookup_config() :: Found IKE SA configuration based on SADB
entry
Debug: Mar 13 20:38:39 IKE: Locking IKE SA (ref count 2)
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_obj_cookie() :: hash key: id=7, type=37, init=0 -> val =
bec1679
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_add() :: hash: id=7, type=37, init=0, phase1=0
Debug: Mar 13 20:38:39 IKE: Received request 102.1.1.2[500], INFORMATIONAL, #1(2), ID 7
Debug: Mar 13 20:38:39 IKE: Message decrypted 88 bytes
Debug: Mar 13 20:38:39 +++ ISAKMP package start (message # 1) +++
Debug: Mar 13 20:38:39   < IKE Header >
Debug: Mar 13 20:38:39   IKE_SA Initiator's SPI: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39   IKE_SA Responder's SPI: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39   Next Payload:     delete (42)
Debug: Mar 13 20:38:39   Version:          2.0
Debug: Mar 13 20:38:39   Exchange Type:    INFORMATIONAL
Debug: Mar 13 20:38:39   Flags:            [ INITIATOR ]
Debug: Mar 13 20:38:39   Message ID:       7
Debug: Mar 13 20:38:39   Length:           36 (#x)
Debug: Mar 13 20:38:39 IKE:   < delete >
Debug: Mar 13 20:38:39 IKE:       Next Payload: none (0)
Debug: Mar 13 20:38:39 IKE:     Payload Length: 8 (#x)
Debug: Mar 13 20:38:39 IKE:     protocol ID: ISAKMP
Debug: Mar 13 20:38:39 --- ISAKMP package end (message # 1) ---
```

```
Debug: Mar 13 20:38:39 IKE: Setting IKE SA (ref count 2) state to dying
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39 IKE: Sending response to 102.1.1.2 [500]
Debug: Mar 13 20:38:39 +++ ISAKMP package start (message # 2) +++
Debug: Mar 13 20:38:39   < IKE Header >
Debug: Mar 13 20:38:39   IKE_SA Initiator's SPI: 0xd762b2a1b460a8da
Debug: Mar 13 20:38:39   IKE_SA Responder's SPI: 0x22e7083e0ef7753a
Debug: Mar 13 20:38:39   Next Payload:     none (0)
Debug: Mar 13 20:38:39   Version:          2.0
Debug: Mar 13 20:38:39   Exchange Type:    INFORMATIONAL
Debug: Mar 13 20:38:39   Flags:            [ RESPONSE ]
Debug: Mar 13 20:38:39   Message ID:       7
Debug: Mar 13 20:38:39   Length:           32 (#x)
Debug: Mar 13 20:38:39 --- ISAKMP package end (message # 2) ---
Debug: Mar 13 20:38:39 IKE: Sending message 102.1.1.2[500]: INFORMATIONAL, #2(2), ID 7
Debug: Mar 13 20:38:39 IKE: Message encrypted 88 bytes
Debug: Mar 13 20:38:39 IKE: Send 88 octets from 100.1.1.1:500 to 102.1.1.2:500
Debug: Mar 13 20:38:39 IKE: informational exchange done
Debug: Mar 13 20:38:39 IKE sub task: packet transmitted to 102.1.1.2

SYSLOG: <14> Mar 13 20:38:39 DUT1 IKEv2: IKEv2 session down Source 100.1.1.1 Destination 102.1.1.2 VRF
0 SPI 0xd762b2a1b460a8da

SYSLOG: <14> Mar 13 20:38:39 DUT1 PORT: tn44 down due to  - IKE session down

SYSLOG: <14> Mar 13 20:38:39 DUT1 System: Interface ipsec_tnnl 44, state down  - IKE session down
Debug: Mar 13 20:38:39 IKE: local public DH value
2520515a f7536f69 27413bc7 0efc4262 0f501aa6 0deeed19 6ad81b3e 192ca278
cbc09936 34d4fe3d a60c2239 254a28f5 74225709 0bb186e0 95ee7777 134fdc4c
b6c021f4 39894aba 4c3dc91a e1f8c018 089b1570 57179b21 2ddcfd10 284cb2a8

Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_obj_cookie() :: hash key: id=0, type=0, init=1 -> val =
78a81769
Debug: Mar 13 20:38:39 IKE: ipike_isakmp_hash_add() :: hash: id=0, type=34, init=1, phase1=1
Debug: Mar 13 20:38:39 Add Payload 33
Debug: Mar 13 20:38:39 Add Payload 47
Debug: Mar 13 20:38:39 Add Payload 41
Debug: Mar 13 20:38:39 Add Payload 34
Debug: Mar 13 20:38:39 Add Payload 40
Debug: Mar 13 20:38:39 IKE: Sending request to 102.1.1.2 [500]
Debug: Mar 13 20:38:39 +++ ISAKMP package start (message # 1) +++
Debug: Mar 13 20:38:39   < IKE Header >
Debug: Mar 13 20:38:39   IKE_SA Initiator's SPI: 0x4731b3c6a38c0641
Debug: Mar 13 20:38:39   IKE_SA Responder's SPI: 0x0000000000000000
Debug: Mar 13 20:38:39   Next Payload:     security association (33)
Debug: Mar 13 20:38:39   Version:          2.0
Debug: Mar 13 20:38:39   Exchange Type:    IKE_SA_INIT
Debug: Mar 13 20:38:39   Flags:            [ INITIATOR ]
Debug: Mar 13 20:38:39   Message ID:       0
Debug: Mar 13 20:38:39   Length:           248 (#x)
Debug: Mar 13 20:38:39 IKE:   < security association >
Debug: Mar 13 20:38:39 IKE:       Next Payload: key exchange (34)
Debug: Mar 13 20:38:39 IKE:     Payload Length: 48 (#x)
Debug: Mar 13 20:38:39     << proposal >>
Debug: Mar 13 20:38:39       Proposal #:  1
Debug: Mar 13 20:38:39       Protocol ID: ISAKMP
Debug: Mar 13 20:38:39       SPI Size:    0
Debug: Mar 13 20:38:39 IKE:       # of Transforms: 4
Debug: Mar 13 20:38:39       <<< transform >>>
Debug: Mar 13 20:38:39         Type: dh
Debug: Mar 13 20:38:39         ID:   ecp384
Debug: Mar 13 20:38:39       <<< transform >>>
Debug: Mar 13 20:38:39         Type: prf
Debug: Mar 13 20:38:39         ID:   sha384
Debug: Mar 13 20:38:39       <<< transform >>>
Debug: Mar 13 20:38:39         Type: encr
Debug: Mar 13 20:38:39         ID:   aes
Debug: Mar 13 20:38:39         Attr: 800e0100
Debug: Mar 13 20:38:39       <<< transform >>>
Debug: Mar 13 20:38:39         Type: integ
Debug: Mar 13 20:38:39         ID:   sha384
```

```
Debug: Mar 13 20:38:39 IKE:   < key exchange >
Debug: Mar 13 20:38:39 IKE:       Next Payload: nonce (40)
Debug: Mar 13 20:38:39 IKE:     Payload Length: 104 (#x)
Debug: Mar 13 20:38:39 IKE:     dh group: 'ecp384'
Debug: Mar 13 20:38:39 IKE:     data:
2520515a f7536f69 27413bc7 0efc4262 0f501aa6 0deeed19 6ad81b3e 192ca278
cbc09936 34d4fe3d a60c2239 254a28f5 74225709 0bb186e0 95ee7777 134fdc4c
b6c021f4 39894aba 4c3dc91a e1f8c018 089b1570 57179b21 2ddcfd10 284cb2a8

Debug: Mar 13 20:38:39 IKE:   < nonce >
Debug: Mar 13 20:38:39 IKE:       Next Payload: none (0)
Debug: Mar 13 20:38:39 IKE:     Payload Length: 68 (#x)
Debug: Mar 13 20:38:39 IKE:     data:
434bf3f8 3efe8553 e8c81844 2e3eed96 00380268 1908602d cd1437c2 624f4190
d00d7fe2 4e7fc709 20bdcc44 7373f178 0dfdd62c 370a97dc c01d7f35 3a0f6a3e

Debug: Mar 13 20:38:39 --- ISAKMP package end (message # 1) ---
Debug: Mar 13 20:38:39 IKE: Sending message 102.1.1.2[500]: IKE_SA_INIT, #1(4), ID 0
Debug: Mar 13 20:38:39 IKE: Send 248 octets from 100.1.1.1:500 to 102.1.1.2:500
Debug: Mar 13 20:38:39 IKE: Locking IKE SA (ref count 2)
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0x4731b3c6a38c0641
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x0000000000000000
Debug: Mar 13 20:38:39 IKE: Releasing IKE SA (ref count 1), for tunnel 44
Debug: Mar 13 20:38:39 IKE:     initiator cookie: 0x4731b3c6a38c0641
Debug: Mar 13 20:38:39 IKE:     responder cookie: 0x0000000000000000
Debug: Mar 13 20:38:39 ike_transmit_packet send packet to 102.1.1.2:500 from 100.1.1.1:500 vrf:0 length
248
Debug: Mar 13 20:38:39 IKE sub task: packet transmitted to 102.1.1.2
Debug: Mar 13 20:38:42 ike ipv4 packet received with src 102.1.1.2 and dest 100.1.1.1 vrf 0 length 248
Debug: Mar 13 20:38:42 IKE: ipike_isakmp_hash_get_from_cookie() :: hash key: id=0, type=0, init=0
Debug: Mar 13 20:38:42 IKE: ipike_isakmp_hash_get_from_cookie() :: hash key: id=0, type=0, init=0
Debug: Mar 13 20:38:42 IKE: New exchange started (IKE_SA_INIT with Message ID: 0)
Debug: Mar 13 20:38:42 IKE: ipike_isakmp_lookup_config() :: Found IKE SA configuration based on
addresses
Debug: Mar 13 20:38:42 IKE: ipike_isakmp_lookup_config() :: Found IKE SA configuration based on
addresses
Debug: Mar 13 20:38:42 IKE: Setting IKE SA (ref count 0) state to constructing
Debug: Mar 13 20:38:42 IKE:     initiator cookie: 0x20beacbe38bcb465
Debug: Mar 13 20:38:42 IKE:     responder cookie: 0x7f672fffc23b040d
Debug: Mar 13 20:38:42 IKE: Locking IKE SA (ref count 1)
Debug: Mar 13 20:38:42 IKE:     initiator cookie: 0x20beacbe38bcb465
Debug: Mar 13 20:38:42 IKE:     responder cookie: 0x7f672fffc23b040d
Debug: Mar 13 20:38:42 IKE: ipike_isakmp_hash_obj_cookie() :: hash key: id=0, type=0, init=0 -> val =
9b36fb21
Debug: Mar 13 20:38:42 IKE: ipike_isakmp_hash_add() :: hash: id=0, type=34, init=0, phase1=1
Debug: Mar 13 20:38:42 IKE: Received request 102.1.1.2[500], IKE_SA_INIT, #1(4), ID 0
Debug: Mar 13 20:38:42 +++ ISAKMP package start (message # 1) +++
Debug: Mar 13 20:38:42   < IKE Header >
Debug: Mar 13 20:38:42   IKE_SA Initiator's SPI: 0x20beacbe38bcb465
Debug: Mar 13 20:38:42   IKE_SA Responder's SPI: 0x0000000000000000
Debug: Mar 13 20:38:42   Next Payload:     security association (33)
Debug: Mar 13 20:38:42   Version:          2.0
Debug: Mar 13 20:38:42   Exchange Type:    IKE_SA_INIT
Debug: Mar 13 20:38:42   Flags:            [ INITIATOR ]
Debug: Mar 13 20:38:42   Message ID:       0
Debug: Mar 13 20:38:42   Length:           248 (#x)
Debug: Mar 13 20:38:42 IKE:   < security association >
Debug: Mar 13 20:38:42 IKE:       Next Payload: key exchange (34)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 48 (#x)
Debug: Mar 13 20:38:42     << proposal >>
Debug: Mar 13 20:38:42       Proposal #:  1
Debug: Mar 13 20:38:42       Protocol ID: ISAKMP
Debug: Mar 13 20:38:42       SPI Size:    0
Debug: Mar 13 20:38:42 IKE:       # of Transforms: 4
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: dh
Debug: Mar 13 20:38:42         ID:   ecp384
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: prf
Debug: Mar 13 20:38:42         ID:   sha384
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: encr
```

```
Debug: Mar 13 20:38:42         ID:   aes
Debug: Mar 13 20:38:42         Attr: 800e0100
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: integ
Debug: Mar 13 20:38:42         ID:   sha384
Debug: Mar 13 20:38:42 IKE:   < key exchange >
Debug: Mar 13 20:38:42 IKE:       Next Payload: nonce (40)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 104 (#x)
Debug: Mar 13 20:38:42 IKE:     dh group: 'ecp384'
Debug: Mar 13 20:38:42 IKE:     data:
d4d789d3 2d30c979 d856295d 5b740be8 32a7b1ff 6626d3d1 0d51f79c 9573fa48
4d158059 89d81198 1b525537 1c96102b e97e073d 8fe4b757 ebbbc40c 6ef76a3a
f5ac68f4 b24c094c 9af9c60d c8a02faa 9506dad8 5be9fe78 cf979743 22856a11

Debug: Mar 13 20:38:42 IKE:   < nonce >
Debug: Mar 13 20:38:42 IKE:       Next Payload: none (0)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 68 (#x)
Debug: Mar 13 20:38:42 IKE:     data:
2d9db0d5 6453b7f2 0accc5d2 6117d17c 77518abf 1ff952d6 540658e0 98f4019d
c65b6824 ac19716d 25a398cd 16717c6d dc870989 149cff89 9ca77cf8 bbccb6f9

Debug: Mar 13 20:38:42 --- ISAKMP package end (message # 1) ---
Debug: Mar 13 20:38:42 IKE: selected 'aes' as encryption algorithm
Debug: Mar 13 20:38:42 IKE: selected '256' as key length
Debug: Mar 13 20:38:42 IKE: selected 'sha384' as hash algorithm
Debug: Mar 13 20:38:42 IKE: selected 'sha384' as integrity algorithm
Debug: Mar 13 20:38:42 IKE: selected 'ecp384' as DH group description
Debug: Mar 13 20:38:42 IKE: local public DH value
f20a76e2 a5f4ffd3 f1e602db 175e27a5 de6ee0bb 5398912b e42aa726 3707bffa
af06f3ab 07bd6d5e 91977b7d 71c29893 c6319ef9 5a8d8dbf 7d2f177c c6dd270b
01f81f5d 8fb8c352 6da36969 1c8252aa 4c251cda 68c6d48e 4dff1b3b 93644bbd

Debug: Mar 13 20:38:42 IKE: remote public DH value
d4d789d3 2d30c979 d856295d 5b740be8 32a7b1ff 6626d3d1 0d51f79c 9573fa48
4d158059 89d81198 1b525537 1c96102b e97e073d 8fe4b757 ebbbc40c 6ef76a3a
f5ac68f4 b24c094c 9af9c60d c8a02faa 9506dad8 5be9fe78 cf979743 22856a11

Debug: Mar 13 20:38:42 IKE: g^xy
23eb98ce 75f9e6b9 db74f391 943d6e62 99c1a70e 99661d30 5f2115b4 006abec2
d8c75633 dbac2fed 34812aea a6b37510
Debug: Mar 13 20:38:42 IKE: SKEYSEED: 6460e276 5e8521ee 2c660e02 672a1b40 1f9360af a9fa2d6a 3f2d7d7b
f063f98f
9c10967d 06c5267b ab3fd497 28ce695e
Debug: Mar 13 20:38:42 IKE: Key d:  d7c69fef 8f72fc49 0e059883 0a2809ce ea4a0920 e64914b7 da218b46
2b8b72fe
1f9e9c1c 5beda8da d4d4de43 3ba53661
Debug: Mar 13 20:38:42 IKE: Key ai: 4489ba21 e8a914c5 3a13694f f647c46b fbf0cef7 0ceb4c5d bdb623a5
5f4b01c5
62558333 0da07993 c6d187e0 1e638cb7
Debug: Mar 13 20:38:42 IKE: Key ar: 377095ad 1251bd49 265d66ef 3aaa090d d353bfff e98f651b 96a0ecfb
cd7c68d4
5058e99d 7e332161 8169a04e 8bae393f
Debug: Mar 13 20:38:42 IKE: Key ei: 8c31e91d f8011cdd c1674ea5 73b0ad12 6e60cc70 74cbf967 dbd35a49
99f0a679

Debug: Mar 13 20:38:42 IKE: Key er: 8e7881ff bf853fe2 a7b43864 67f9a587 827740e9 7f63125b 34526ac1
510b23fe

Debug: Mar 13 20:38:42 IKE: Key pi: f2646dde d9f565c4 72c1382e 94febb13 49762791 1152c357 64e7613f
00c538bb
ec2f5d4b 8c63b249 405769e9 35d8936c
Debug: Mar 13 20:38:42 IKE: Key pr: a917acb3 b370f56e 7501c8bc 50209201 375c7d6e 48820e68 f442c1a0
011d5f49
3773a2e1 23e8e867 6c288dcc f8d59a13
Debug: Mar 13 20:38:42 Add Payload 33
Debug: Mar 13 20:38:42 Add Payload 47
Debug: Mar 13 20:38:42 Add Payload 41
Debug: Mar 13 20:38:42 Add Payload 34
Debug: Mar 13 20:38:42 Add Payload 40
Debug: Mar 13 20:38:42 Add Payload 38
Debug: Mar 13 20:38:42 IKE: Sending response to 102.1.1.2 [500]
Debug: Mar 13 20:38:42 +++ ISAKMP package start (message # 2) +++
```

```
Debug: Mar 13 20:38:42   < IKE Header >
Debug: Mar 13 20:38:42   IKE_SA Initiator's SPI: 0x20beacbe38bcb465
Debug: Mar 13 20:38:42   IKE_SA Responder's SPI: 0x7f672fffc23b040d
Debug: Mar 13 20:38:42   Next Payload:     security association (33)
Debug: Mar 13 20:38:42   Version:          2.0
Debug: Mar 13 20:38:42   Exchange Type:    IKE_SA_INIT
Debug: Mar 13 20:38:42   Flags:            [ RESPONSE ]
Debug: Mar 13 20:38:42   Message ID:       0
Debug: Mar 13 20:38:42   Length:           248 (#x)
Debug: Mar 13 20:38:42 IKE:   < security association >
Debug: Mar 13 20:38:42 IKE:       Next Payload: key exchange (34)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 48 (#x)
Debug: Mar 13 20:38:42     << proposal >>
Debug: Mar 13 20:38:42       Proposal #:  1
Debug: Mar 13 20:38:42       Protocol ID: ISAKMP
Debug: Mar 13 20:38:42       SPI Size:    0
Debug: Mar 13 20:38:42 IKE:       # of Transforms: 4
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: encr
Debug: Mar 13 20:38:42         ID:   aes
Debug: Mar 13 20:38:42         Attr: 800e0100
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: integ
Debug: Mar 13 20:38:42         ID:   sha384
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: prf
Debug: Mar 13 20:38:42         ID:   sha384
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: dh
Debug: Mar 13 20:38:42         ID:   ecp384
Debug: Mar 13 20:38:42 IKE:   < key exchange >
Debug: Mar 13 20:38:42 IKE:       Next Payload: nonce (40)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 104 (#x)
Debug: Mar 13 20:38:42 IKE:     dh group: 'ecp384'
Debug: Mar 13 20:38:42 IKE:     data:
f20a76e2 a5f4ffd3 f1e602db 175e27a5 de6ee0bb 5398912b e42aa726 3707bffa
af06f3ab 07bd6d5e 91977b7d 71c29893 c6319ef9 5a8d8dbf 7d2f177c c6dd270b
01f81f5d 8fb8c352 6da36969 1c8252aa 4c251cda 68c6d48e 4dff1b3b 93644bbd

Debug: Mar 13 20:38:42 IKE:   < nonce >
Debug: Mar 13 20:38:42 IKE:       Next Payload: none (0)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 68 (#x)
Debug: Mar 13 20:38:42 IKE:     data:
1d49d2fa 0b2c88d1 c01bcd5e 70dedfcd ef78d6dc e71584f0 df6beb24 38ff4e28
a431ba8f 892328dd e00f6029 9df67ff7 0d68de7a 143ca305 c42bbe53 78493a7f

Debug: Mar 13 20:38:42 --- ISAKMP package end (message # 2) ---
Debug: Mar 13 20:38:42 IKE: Sending message 102.1.1.2[500]: IKE_SA_INIT, #2(4), ID 0
Debug: Mar 13 20:38:42 IKE: Send 248 octets from 100.1.1.1:500 to 102.1.1.2:500
Debug: Mar 13 20:38:42 ike_transmit_packet send packet to 102.1.1.2:500 from 100.1.1.1:500 vrf:0 length
248
Debug: Mar 13 20:38:42 IKE sub task: packet transmitted to 102.1.1.2
Debug: Mar 13 20:38:42 ike ipv4 packet received with src 102.1.1.2 and dest 100.1.1.1 vrf 0 length 248
Debug: Mar 13 20:38:42 IKE: ipike_isakmp_hash_get_from_cookie() :: hash key: id=0, type=0, init=0
Debug: Mar 13 20:38:42 IKE: Received request 102.1.1.2[500], IKE_AUTH, #3(4), ID 1
Debug: Mar 13 20:38:42 IKE: Message decrypted 248 bytes
Debug: Mar 13 20:38:42 +++ ISAKMP package start (message # 3) +++
Debug: Mar 13 20:38:42   < IKE Header >
Debug: Mar 13 20:38:42   IKE_SA Initiator's SPI: 0x20beacbe38bcb465
Debug: Mar 13 20:38:42   IKE_SA Responder's SPI: 0x7f672fffc23b040d
Debug: Mar 13 20:38:42   Next Payload:     notify (41)
Debug: Mar 13 20:38:42   Version:          2.0
Debug: Mar 13 20:38:42   Exchange Type:    IKE_AUTH
Debug: Mar 13 20:38:42   Flags:            [ INITIATOR ]
Debug: Mar 13 20:38:42   Message ID:       1
Debug: Mar 13 20:38:42   Length:           188 (#x)
Debug: Mar 13 20:38:42 IKE:   < notify >
Debug: Mar 13 20:38:42 IKE:       Next Payload: identification initiator (35)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 8 (#x)
Debug: Mar 13 20:38:42 IKE:     message type: ESP_TFC_PADDING_NOT_SUPPORTED (16394)
Debug: Mar 13 20:38:42 IKE:   < identification initiator >
Debug: Mar 13 20:38:42 IKE:       Next Payload: authentication (39)
```

```
Debug: Mar 13 20:38:42 IKE:     Payload Length: 12 (#x)
Debug: Mar 13 20:38:42 IKE:     id type: address
Debug: Mar 13 20:38:42 IKE:     id data: 00000000
Debug: Mar 13 20:38:42 IKE:   < authentication >
Debug: Mar 13 20:38:42 IKE:       Next Payload: security association (33)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 56 (#x)
Debug: Mar 13 20:38:42 IKE:     method: 'pre_shared_key'
Debug: Mar 13 20:38:42 IKE:     data:
bf993791 8f2d42f5 3bc3ccad 59b8f2a5 761d9a83 d195d5d2 0f70de64 a5d0e677
25c2613a 47e72571 446cb83c 578f7b89
Debug: Mar 13 20:38:42 IKE:   < security association >
Debug: Mar 13 20:38:42 IKE:       Next Payload: traffic selector initiator (44)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 36 (#x)
Debug: Mar 13 20:38:42     << proposal >>
Debug: Mar 13 20:38:42       Proposal #:  1
Debug: Mar 13 20:38:42       Protocol ID: IPSEC_ESP
Debug: Mar 13 20:38:42       SPI Size:    4
Debug: Mar 13 20:38:42 IKE:       spi data:    0000230e
Debug: Mar 13 20:38:42 IKE:       # of Transforms: 2
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: encr
Debug: Mar 13 20:38:42         ID:   aes256gcm
Debug: Mar 13 20:38:42         Attr: 800e0100
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: esn
Debug: Mar 13 20:38:42         ID:   off
Debug: Mar 13 20:38:42 IKE:   < traffic selector initiator >
Debug: Mar 13 20:38:42 IKE:       Next Payload: traffic selector responder (45)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 24 (#x)
Debug: Mar 13 20:38:42 IKE:     Protocol:      any
Debug: Mar 13 20:38:42 IKE:     Address start: 0.0.0.0
Debug: Mar 13 20:38:42 IKE:     Address end:   255.255.255.255
Debug: Mar 13 20:38:42 IKE:     Port start:    0
Debug: Mar 13 20:38:42 IKE:     Port end:      65535
Debug: Mar 13 20:38:42 IKE:   < traffic selector responder >
Debug: Mar 13 20:38:42 IKE:       Next Payload: none (0)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 24 (#x)
Debug: Mar 13 20:38:42 IKE:     Protocol:      any
Debug: Mar 13 20:38:42 IKE:     Address start: 0.0.0.0
Debug: Mar 13 20:38:42 IKE:     Address end:   255.255.255.255
Debug: Mar 13 20:38:42 IKE:     Port start:    0
Debug: Mar 13 20:38:42 IKE:     Port end:      65535
Debug: Mar 13 20:38:42 --- ISAKMP package end (message # 3) ---
Debug: Mar 13 20:38:42 IKE: Process initial contact notify payload for tunnel 44
Debug: Mar 13 20:38:42 IKE: ipike_crypto_read_cert: could not open tunnel_44
Debug: Mar 13 20:38:42 IKE: Message:
20beacbe 38bcb465 00000000 00000000 21202208 00000000 000000f8 22000030
0000002c 01010004 03000008 04000014 03000008 02000006 0300000c 0100000c
800e0100 00000008 0300000d 28000068 00140000 d4d789d3 2d30c979 d856295d
5b740be8 32a7b1ff 6626d3d1 0d51f79c 9573fa48 4d158059 89d81198 1b525537
1c96102b e97e073d 8fe4b757 ebbbc40c 6ef76a3a f5ac68f4 b24c094c 9af9c60d
c8a02faa 9506dad8 5be9fe78 cf979743 22856a11 00000044 2d9db0d5 6453b7f2
0accc5d2 6117d17c 77518abf 1ff952d6 540658e0 98f4019d c65b6824 ac19.
Debug: Mar 13 20:38:42 IKE: Authentication key:
7f602adf 7481a350 d4904150 ed0804b5 0a176fc3 46559ff4 19986e5f 5547be73
695b66ab 24eeabf4 1e9eabfa a0b0c75c
Debug: Mar 13 20:38:42 IKE: Authentication data:
bf993791 8f2d42f5 3bc3ccad 59b8f2a5 761d9a83 d195d5d2 0f70de64 a5d0e677
25c2613a 47e72571 446cb83c 578f7b89
Debug: Mar 13 20:38:42 IKE: Message:
20beacbe 38bcb465 7f672fff c23b040d 21202220 00000000 000000f8 22000030
0000002c 01010004 0300000c 0100000c 800e0100 03000008 0300000d 03000008
02000006 00000008 04000014 28000068 00140000 f20a76e2 a5f4ffd3 f1e602db
175e27a5 de6ee0bb 5398912b e42aa726 3707bffa af06f3ab 07bd6d5e 91977b7d
71c29893 c6319ef9 5a8d8dbf 7d2f177c c6dd270b 01f81f5d 8fb8c352 6da36969
1c8252aa 4c251cda 68c6d48e 4dff1b3b 93644bbd 00000044 1d49d2fa 0b2c88d1
c01bcd5e 70dedfcd ef78d6dc e71584f0 df6beb24 38ff4e28 a431ba8f 8923.
Debug: Mar 13 20:38:42 IKE: Authentication key:
7f602adf 7481a350 d4904150 ed0804b5 0a176fc3 46559ff4 19986e5f 5547be73
695b66ab 24eeabf4 1e9eabfa a0b0c75c
Debug: Mar 13 20:38:42 IKE: Authentication data:
3d9760af 143f7e57 7cd521b6 8034ddab e23e101c 54a584de d7ab54e9 0ce3365b
```

```
ab6d5db3 69d288eb 294c2aed f7f19a2c
Debug: Mar 13 20:38:42 IKE: use_esn from config: off

Debug: Mar 13 20:38:42 IKE: selected 'aes256gcm' as encryption algorithm
Debug: Mar 13 20:38:42 IKE: selected '256' as key length
Debug: Mar 13 20:38:42 IKE: selected 'off' for ESN
Debug: Mar 13 20:38:42 Add Payload 47
Debug: Mar 13 20:38:42 Add Payload 41
Debug: Mar 13 20:38:42 IKE: Create notify payload with message type 16394
Debug: Mar 13 20:38:42 Add Payload 36
Debug: Mar 13 20:38:42 Add Payload 37
Debug: Mar 13 20:38:42 Add Payload 39
Debug: Mar 13 20:38:42 Add Payload 33
Debug: Mar 13 20:38:42 Add Payload 44
Debug: Mar 13 20:38:42 Add Payload 45
Debug: Mar 13 20:38:42 Add Payload 48
Debug: Mar 13 20:38:42 IKE: Sending response to 102.1.1.2 [500]
Debug: Mar 13 20:38:42 +++ ISAKMP package start (message # 4) +++
Debug: Mar 13 20:38:42   < IKE Header >
Debug: Mar 13 20:38:42   IKE_SA Initiator's SPI: 0x20beacbe38bcb465
Debug: Mar 13 20:38:42   IKE_SA Responder's SPI: 0x7f672fffc23b040d
Debug: Mar 13 20:38:42   Next Payload:     notify (41)
Debug: Mar 13 20:38:42   Version:          2.0
Debug: Mar 13 20:38:42   Exchange Type:    IKE_AUTH
Debug: Mar 13 20:38:42   Flags:            [ RESPONSE ]
Debug: Mar 13 20:38:42   Message ID:       1
Debug: Mar 13 20:38:42   Length:           188 (#x)
Debug: Mar 13 20:38:42 IKE:   < notify >
Debug: Mar 13 20:38:42 IKE:       Next Payload: identification responder (36)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 8 (#x)
Debug: Mar 13 20:38:42 IKE:     message type: ESP_TFC_PADDING_NOT_SUPPORTED (16394)
Debug: Mar 13 20:38:42 IKE:   < identification responder >
Debug: Mar 13 20:38:42 IKE:       Next Payload: authentication (39)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 12 (#x)
Debug: Mar 13 20:38:42 IKE:     id type: address
Debug: Mar 13 20:38:42 IKE:     id data: 00000000
Debug: Mar 13 20:38:42 IKE:   < authentication >
Debug: Mar 13 20:38:42 IKE:       Next Payload: security association (33)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 56 (#x)
Debug: Mar 13 20:38:42 IKE:     method: 'pre_shared_key'
Debug: Mar 13 20:38:42 IKE:     data:
3d9760af 143f7e57 7cd521b6 8034ddab e23e101c 54a584de d7ab54e9 0ce3365b
ab6d5db3 69d288eb 294c2aed f7f19a2c
Debug: Mar 13 20:38:42 IKE:   < security association >
Debug: Mar 13 20:38:42 IKE:       Next Payload: traffic selector initiator (44)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 36 (#x)
Debug: Mar 13 20:38:42     << proposal >>
Debug: Mar 13 20:38:42       Proposal #:  1
Debug: Mar 13 20:38:42       Protocol ID: IPSEC_ESP
Debug: Mar 13 20:38:42       SPI Size:    4
Debug: Mar 13 20:38:42 IKE:       spi data:    000007fe
Debug: Mar 13 20:38:42 IKE:       # of Transforms: 2
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: esn
Debug: Mar 13 20:38:42         ID:   off
Debug: Mar 13 20:38:42       <<< transform >>>
Debug: Mar 13 20:38:42         Type: encr
Debug: Mar 13 20:38:42         ID:   aes256gcm
Debug: Mar 13 20:38:42         Attr: 800e0100
Debug: Mar 13 20:38:42 IKE:   < traffic selector initiator >
Debug: Mar 13 20:38:42 IKE:       Next Payload: traffic selector responder (45)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 24 (#x)
Debug: Mar 13 20:38:42 IKE:     Protocol:      any
Debug: Mar 13 20:38:42 IKE:     Address start: 0.0.0.0
Debug: Mar 13 20:38:42 IKE:     Address end:   255.255.255.255
Debug: Mar 13 20:38:42 IKE:     Port start:    0
Debug: Mar 13 20:38:42 IKE:     Port end:      65535
Debug: Mar 13 20:38:42 IKE:   < traffic selector responder >
Debug: Mar 13 20:38:42 IKE:       Next Payload: none (0)
Debug: Mar 13 20:38:42 IKE:     Payload Length: 24 (#x)
Debug: Mar 13 20:38:42 IKE:     Protocol:      any
Debug: Mar 13 20:38:42 IKE:     Address start: 0.0.0.0
```

```
Debug: Mar 13 20:38:42 IKE:     Address end:   255.255.255.255
Debug: Mar 13 20:38:42 IKE:     Port start:    0
Debug: Mar 13 20:38:42 IKE:     Port end:      65535
Debug: Mar 13 20:38:42 --- ISAKMP package end (message # 4) ---
Debug: Mar 13 20:38:42 IKE: Sending message 102.1.1.2[500]: IKE_AUTH, #4(4), ID 1
Debug: Mar 13 20:38:42 IKE: Message encrypted 248 bytes
Debug: Mar 13 20:38:42 IKE: Send 248 octets from 100.1.1.1:500 to 102.1.1.2:500
Debug: Mar 13 20:38:42 IKE: ipike_sadb_get_from_ike_config() :: no IKE SA for peer 102.1.1.2, config id
'tunnel44'
Debug: Mar 13 20:38:42 IKE: Enc key inbound:  2d551d4a f27a5382 d6139507 9cd7ba09 b801f9f8 585ecd81
2703818e ff5aad8f
2720eb1c
Debug: Mar 13 20:38:42 IKE: Enc key outbound: c1984de9 10338d76 7d7c1d7a d47b84ee e9d7ba33 a116b639
dbab15f4 19fb8280
3e30fe3d
```

History

Release version	Command history
8.0.41	This command was introduced.

debug ip arp

Activates the debugging of ARP packets.

Syntax

debug ip arp *ip-addr*

no debug ip arp *ip-addr*

Parameters

ip-addr

Specifies a particular route.

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip arp 10.29.29.53
ARP:  packets debugging is on
device# show arp

Total number of ARP entries: 3, maximum capacity: 4000
No.   IP Address       MAC Address    Type     Age Port           Status
1     10.29.29.53                          0000.0034.1b60 Dynamic  0    2/1/15-2/1/16 Valid
2     10.200.200.45    0000.00cf.c400 Dynamic  0    1/1/13-1/1/14 Valid
3     10.30.30.31      0000.0023.0f00 Dynamic  0    2/1/9-2/1/10  Valid

device# clear arp
next hop router 10.29.29.53 ARP mapping deleted
device# ARP: sent packet oper=request, src 10.29.29.111 0000.0076.2c80: dst 10.29.29.53 0000.0000.0000:
Port v29
ARP: sent packet oper=request, src 10.200.200.111 0000.0076.2c80: dst 10.200.200.45 0000.0000.0000:
Port v2000
ARP: sent packet oper=request, src 10.30.30.111 0000.0076.2c80: dst 10.30.30.31 0000.0000.0000: Port
v300
ARP: sent packet oper=request, src 10.20.67.111 0000.0076.2c80: dst 10.20.10.11 0000.0000.0000: Port
mgmt1
```

debug ip arp inspection

Enables ARP inspection debugging.

Syntax

debug ip arp inspection

no debug ip arp inspection

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip arp inspection
ARP:  inspection debugging is on
RX: rcvd ARP packet, brd 1, us 0, vlan 14 port 5/1/2
ARP: rcvd packet oper=request, src 10.3.3.13 0000.009d.8c69: dst 10.3.3.1 0000.0000.0000: Port e5/1/2
ARP: REQ inspection pass, 10.3.3.13->10.3.3.1, port 5/1/2
```

debug ip bgp

Enables common BGP debugging information to be displayed for all virtual routing and forwarding events (VRFs) or for a specific VRF.

Syntax

debug ip bgp *neighbor_ip_address*

no debug ip bgp *neighbor_ip_address*

Parameters

neighbor_ip_address

The neighbor_ip_address variable refers to the IP address of the immediate neighbor.

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip bgp 10.1.34.10
          BGP:  neighbor 10.1.34.10 debugging is on
device# BGP: 10.1.34.10 rcv UPDATE w/attr: Origin=IGP AS_PATH=AS_CONFED_SEQUENCE(3) 64519
NextHop=10.1.34.10 MED=0 LOCAL_PREF=100
BGP: 10.1.34.10 rcv UPDATE 10.1.22.0/24
BGP: 10.1.34.10 rcv UPDATE w/attr: Origin=IGP AS_PATH=AS_CONFED_SEQUENCE(3) 64519 NextHop 10.1.34.10
MED=0 LOCAL_PREF=100
BGP: 10.1.34.10 rcv UPDATE 10.1.23.0/24
```

debug ip bgp dampening

Displays information about dampening process configurations, route penalties, durations, restraint, and release.

Syntax

debug ip bgp dampening

no debug ip bgp dampening

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip bgp dampening
BGP: 10.1.1.2 Decay 10.1.1.32/32, ostate <d>, oPnlty=6805, nPnlty=840, time=2712
BGP: 10.1.1.2 reuse_list_index=258, curr_offset=45
BGP: 10.1.1.2 10.1.1.32/32 not ready, state <d>, reuse_threshold=750, new_index=61, offset=45
BGP: 10.1.1.2 Decay 10.1.1.32/32, ostate <d>, oPnlty=6805, nPnlty=840, time=2712
BGP: 10.1.1.2 reuse_list_index=258, curr_offset=45
BGP: 10.1.1.2 10.1.1.32/32 not ready, state <d>, reuse_threshold=750, new_index=61, offset=45
BGP: 10.1.1.2 Decay 10.1.1.32/32, ostate <d>, oPnlty=6805, nPnlty=840, time=2712
BGP: 10.1.1.2 reuse_list_index=258, curr_offset=45
BGP: 10.1.1.2 10.1.1.32/32 not ready, state <d>, reuse_threshold=750, new_index=61, offset=45
BGP: 10.1.1.2 Decay 10.1.1.32/32, ostate <d>, oPnlty=6805, nPnlty=840, time=2712
BGP: 10.1.1.2 reuse_list_index=258, curr_offset=45
BGP: 10.1.1.2 10.1.1.32/32 not ready, state <d>, reuse_threshold=750, new_index=61, offset=45
BGP: 10.1.1.2 Decay 10.1.1.32/32, ostate <d>, oPnlty=6805, nPnlty=840, time=2712
BGP: 10.1.1.2 reuse_list_index=258, curr_offset=45
BGP: 10.1.1.2 10.1.1.32/32 not ready, state <d>, reuse_threshold=750, new_index=61, offset=45
```

debug ip bgp events

Generates information about BGP events, such as connection attempts and keepalive timer activity.

Syntax

debug ip bgp events

no debug ip bgp events

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip bgp events
          BGP:  events debugging is on
device# BGP: 10.1.34.10 rcv notification: CEASE Message
BGP: 10.1.34.10 Peer went to IDLE state (Rcv Notification)
BGP: 10.1.35.10 rcv notification: CEASE Message
BGP: 10.1.35.10 Peer went to IDLE state (Rcv Notification)
BGP: 10.1.34.10 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 10.1.35.10 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 10.1.34.10 rcv GR capability afi/safi=1/1 fbit 0
BGP: 10.1.34.10 Peer went to ESTABLISHED state
BGP: 10.1.35.10 rcv GR capability afi/safi=1/1 fbit 0
BGP: 10.1.35.10 Peer went to ESTABLISHED state
BGP: 10.1.34.10 rcv UPDATE EOR (0), waiting EOR 0
BGP: 10.1.35.10 rcv UPDATE EOR (0), waiting EOR 0
BGP: 10.1.34.10 sending EOR (safi 0)...
BGP: 10.1.35.10 sending EOR (safi 0)...
```

debug ip bgp graceful-restart

Displays information about BGP graceful restarts. The graceful restart feature minimizes disruptions in forwarding and route flapping when a router restarts.

Syntax

debug ip bgp graceful-restart

no debug ip bgp graceful-restart

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip bgp graceful-restart
          BGP:  graceful-restart debugging is on
BGP: 10.1.251.6 save graceful restart parameters, #RIB_out 2 (safi 0)
10.1.251.6 RIB_out peer reset  #RIB_out 2 (safi 0)
 BGP: 10.1.251.6 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 10.1.251.6 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 10.1.251.6 sending Graceful Restart cap, rbit 0, fbit 0, time 120, length 6
BGP: 10.1.251.6 rcv GR capability afi/safi=1/1 fbit 1
BGP: 10.1.251.6 sending EOR (safi 0)...
```

debug ip bgp keepalives

Displays information about the status of a resource such as BGP.

Syntax

debug ip bgp keepalives

no debug ip bgp keepalives

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip bgp keepalives
BGP: 10.1.1.2 sending KEEPALIVE
BGP: 10.1.1.2 KEEPALIVE received
```

debug ip bgp updates

Displays BGP receive, transmit, or receive and transmit update messages about debug processing.

Syntax

debug ip bgp updates

no debug ip bgp updates

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip bgp updates
BGP: safi(0): 10.1.1.2 sending UPDATE w/attr: Origin=IGP AS_PATH=65538 NEXT_HOP=10.1.1.1 MED=1
BGP: (0): 10.1.1.2 sending UPDATE Label=0 2001:DB8:83:e8:00:04:78:64:10.1.1.1/32
BGP: 10.1.1.2 rcv bad UPDATE (saif 0) due to AS loop, take as implicit withdraw!
BGP: BGP: 10.1.1.2  rcv UPDATE w/attr: Origin=INCOMP AS_PATH= AS_SEQ(2) 3 NextHop=10.1.1.2 MED=30
BGP: (0): 10.1.1.2 rcv UPDATE 10.1.1.2/32
BGP: 10.1.1.2 rcv bad UPDATE (saif 0) due to AS loop, take as implicit withdraw!
BGP: BGP: 10.1.1.2  rcv UPDATE w/attr: Origin=IGP AS_PATH= AS_SEQ(2) 3 NextHop=10.1.1.2 MED=5
BGP: (0): 10.1.1.2 rcv UPDATE 10.10.10.10/32
BGP: (0): 10.1.1.2 rcv UPDATE 10.213.0.0/16
BGP: (0): 10.1.1.2 rcv UPDATE 10.200.200.200/32
BGP: (0): 10.1.1.2 rcv UPDATE 10.18.18.0/24
BGP: (0): 10.1.1.2 rcv UPDATE 10.1.1.32/32
```

debug ip dhcp-snooping

Enables debugging of the DHCP snooping activity.

Syntax

debug ip dhcp-snooping

no debug ip dhcp-snooping

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip dhcp-snooping
device(config-vif-11)# DHCP: snooping on for vlan 14, port 5/1/2
DHCP: rcv on port 5/1/2, intercept DHCP pkt, Discovr
DHCP: snooping on port 5/1/2, smac 0000.00ce.ac79, type 1, VRF 1 0.0.0.0->0000.00ce.ac79
DHCP Option82: Adding option 82
DHCP Option82: 20 bytes added.
DHCP Option82: Adding option 82
DHCP: snooping on for vlan 14, port 3/1/23
DHCP: rcv on port 3/1/23, intercept DHCP pkt, Offer
DHCP Option82: Removing option 82
DHCP Option82: 19 bytes removed.
DHCP Option82: Removing option 82
DHCP: snooping on for vlan 14, port 5/1/2
DHCP: rcv on port 5/1/2, intercept DHCP pkt, Request
DHCP: snooping on port 5/1/2, smac 0000.00ce.ac79, type 3, VRF 1 0.0.0.0->0000.00ce.ac79
DHCP Option82: Adding option 82
DHCP Option82: 20 bytes added.
DHCP Option82: Adding option 82
```

debug ip gre keepalive

Activates Generic Routing Encapsulation (GRE) keepalive debugging.

Syntax

debug ip gre keepalive

no debug ip gre keepalive

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip gre keepalive
GRE_MP: Keepalive Bring DOWN GRE Tunnel  11
GRE_MP: Keepalive Bring UP GRE on Tunnel 11 - port is 2/1/2
GRE_MP: RX Keepalive packet on tnnl 11 src 10.22.33.254, dst 10.22.33.252
GRE_MP: TX Keepalive packet on tnnl 11 we need to find outgoing port
GRE_MP: TX Keepalive packet on tnnl 11 - outgoing_port is 2/1/2 with mac 0000.00bb.ef40 vlan 2
GRE_MP_KEEPALIVE: NO FREE BUFFER AVAILABLE
GRE_MP: For Tunnel 11, Keepalive timeout after 3 seconds
GRE_MP: For Tunnel 11, stop keep-alive
GRE_MP: For Tunnel 11, start keep-alive
GRE_MP: enqueue Keepalive packet on tunnel 11 at index 23
GRE_MP: dequeue Keepalive packet on tunnel 11 at index 23
```

debug ip gre log

Activates the tunnel events debugging.

Syntax

debug ip gre log

no debug ip gre log

Modes

Privileged EXEC mode

Usage Guidelines

The no form disables tunnel events debugging

Examples

```
device# debug ip gre log
Apply mtu 1400 failed for tunnel 11 as all mtu profiles are used
Clearing PMTU for tunnel 11 due to ip mtu 1400 configuration
Tunnel Create Sync-Receive event for tunnel: 11
Tunnel Create Sync-Successful for tunnel: 11
Tunnel Update TS Sync-Receive event for tunnel: 11
Tunnel Update TS Sync-Successful for tunnel: 11
Tunnel Update Nhop Sync-Receive event for tunnel: 11
Tunnel Update Nhop Sync-Successful for tunnel: 11
Tunnel Update TTI Sync-Receive event for tunnel: 11
Tunnel Port Up Sync-Receive event for tunnel: 11
Tunnel Port Up Sync-Successful for tunnel: 11
Tunnel Port Down Sync-Receive event for tunnel: 11
Tunnel Port Down Sync-Successful for tunnel: 11
Tunnel Update MTU Sync-Receive event for tunnel: 11
Tunnel Update MTU Sync-Successful for tunnel: 11
Tunnel Delete Sync-Receive event for tunnel: 11
Tunnel Delete Sync-Successful for tunnel: 11
Tunnel Delete Nhop Sync-Receive event for tunnel: 11
Tunnel Delete Nhop Sync-Successful for tunnel: 11
Tunnel Delete TTI Sync-Receive event for tunnel: 11
Tunnel Delete Origination entry Sync-Receive event for tunnel: 11
Tunnel Delete Origination entry Sync-Successful for tunnel: 11
process_one_l3_unicast_update: entryType 6
Fill Sync Tunnel Entry-Bad parameters. Failed for tunnel: 11
Fill Sync Tunnel Entry-Bad TS entry. Failed for tunnel: 11
pack_tunnel_entry_change called with tunnel_index: 11 operation: TUNNEL_SYNC_UPDATE_NHOP
pack_tunnel_entry_list called with tunnel_index: 11 operation: TUNNEL_SYNC_CREATE_ALL, from_beginning: 1
Sync-ing tunnel entry 11
[pp_puma_tunnel_hotswap_insert] No tunnel start info for tunnel 11
DEBUG 0x8: Tunnel 11 already deleted
DEBUG 0x8: Tunnel 11 pp_delete_tunnel_entry
DEBUG 0x8: Can not find route for tunnel id 11, hw index 23, src 10.22.33.254, dest 10.22.33.252
DEBUG 0x8: create GRE tunnel origination because find route for tunnel id 11, hw index 23, src
10.22.33.254, dest 10.22.33.252
DEBUG 0x8: Route for tunnel id 11 is via another tunnel or management port 22
DEBUG 0x8: Direct route for tunnel id 11 dest 10.22.33.252 has unresolved ARP
DEBUG 0x8: indirect route for tunnel id 11 dest 10.22.33.252 next hop 10.11.25.5  has unresolved ARP
DEBUG 0x8: indirect route for tunnel id 11 destination 10.22.33.252 next hop 10.11.25.5 has resolved
ARP - CMD => route
DEBUG 0x8: Set next hop to Drop for  tunnel id 11, hw index 23, src 10.22.33.254, dest 10.22.33.252
DEBUG 0x8: Tunnel 11 - next hop 10.11.25.5  has no link-layer
DEBUG 0x8: bring tunnel id 11 up with drop
DEBUG 0x8: Create tunnel id 11 with next hop 185276677 - old next hop is 125276633
DEBUG 0x8: bring tunnel id 11 up
Update_hw_routes for Tunnel 11
Path MTU: Tunnel 11 - reset path mtu timer 456 (3344)
Path MTU: Tunnel 11 - failed to reset path mtu timer 456 (3344)
```

debug ip gre packet

Activates the debugging of GRE packet processing.

Syntax

debug ip gre packet

no debug ip gre packet

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip gre packet
GRE: Error - IP GRE packet with invalid Ptype 0x1A4
GRE: Error - IP GRE packet with invalid first word 0x2C
GRE: Error - IP GRE packet with invalid first word 0x2C
GRE fragment : Rx IP GRE Pkt: src 10.22.33.254, dst 224.0.0.5, len 64 id 324
GRE Packet too big - need extra processing: Rx IP GRE Pkt: src 10.22.33.254, dst 224.0.0.5, len 64
GRE Reassembly: Rx IP GRE Pkt: src 10.22.33.254, dst 224.0.0.5, len 64
GRE : Rx IP GRE Pkt: src 10.22.33.254, dst 224.0.0.5, len 64
GRE: Error - Rx IP Pkt with invalid Inner IPv4 header
GRE: Error - Rx IP Pkt with 2 GRE headers: Inner src 10.22.33.254, Inner dst 224.0.0.5, len 64
GRE: Dropping the packet as GRE tnnl 11  is not UP
GRE_LP: Error - LP TX GRE packet is in LOOP
GRE : FORWARD IP to GRE tunnel 11 - Pkt: src 10.22.33.254, dst 224.0.0.5, len 64
GRE : Failed to FORWARD IP to GRE tunnel 11  - Pkt: src 10.22.33.254, dst 224.0.0.5, No route
```

debug ip icmp events

Activates ICMP events debugging.

Syntax

debug ip icmp events

no debug ip icmp events

Modes

Privileged EXEC mode

Usage Guidelines

Examples

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

device# 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
```

debug ip icmp packets

Activates ICMP packets debugging.

Syntax

debug ip icmp packets

no debug ip icmp packets

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip icmp packets
         ICMP:  packets debugging is on
device# !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
```

debug ip igmp add-del-oif

Displays information about the addition or deletion of the outgoing interfaces (OIFs).

Syntax

debug ip igmp add-del-oif

no debug ip igmp add-del-oif

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip igmp add-del-oif
add-del-oif enabled
device# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp add-del-oif is enabled
device# debug ip igmp
device# IGMP: rcvd Report-V2(t=22)  g=239.0.0.147 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 to 239.0.0.160, on v17 (phy
2/1/17), igmp_size=8

device# IGMP: rcvd Report-V2(t=22)  g=239.0.0.161 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 to 239.0.0.175, on v17 (phy
```

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2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.176 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 to 239.0.0.211, on v17 (phy
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2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.212 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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

Displays information about the addition or deletion of all the OIFs that are IGMP-enabled.

Syntax

debug ip igmp add-del-oif all

no debug ip igmp add-del-oif all

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip igmp add-del-oif all
add-del-oif all enabled
device# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp add-del-oif all is enabled
device# debug ip igmp
device# IGMP: rcvd Report-V2(t=22)  g=239.0.0.99 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 to 239.0.0.121, on v17 (phy
2/1/17), igmp_size=8

device# IGMP: rcvd Report-V2(t=22)  g=239.0.0.122 resp=100, pkt S=10.17.17.222 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=10.17.17.222 to 239.0.0.123, on v17 (phy
2/1/17), igmp_size=8

device# IGMP: rcvd Report-V2(t=22)  g=239.0.0.124 resp=100, pkt S=10.17.17.222 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=10.17.17.222 to 239.0.0.125, on v17 (phy
2/1/17), igmp_size=8
IGMP: rcvd Report-V2(t=22)  g=239.0.0.126 resp=100, pkt S=10.17.17.222 to 239.0.0.126, on v17 (phy
2/1/17), igmp_size=8
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IGMP: rcvd Report-V2(t=22)  g=239.0.0.127 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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

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.

Syntax

debug ip igmp add-del-oif stack

no debug ip igmp add-del-oif stack

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip igmp add-del-oif stack
add-del-oif stack enabled
device# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp add-del-oif stack is enabled
device# debug ip ig
device# IGMP: rcvd Report-V2(t=22)  g=239.0.1.8 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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

Clears all the IGMP debug settings.

Syntax

debug ip igmp clear

no debug ip igmp clear

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip igmp clear
no debug ip igmp is enabled
```

debug ip igmp down-port

Monitors the port that is down.

Syntax

debug ip igmp down-port

no debug ip igmp down-port

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip igmp down-port
device# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp port-down is enabled
device# debug ip igmp
device# IGMP: rcvd Report-V2(t=22)  g=239.0.0.84 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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 enable

Enables IGMP debugging.

Syntax

debug ip igmp enable

no debug ip igmp enable

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug ip igmp enable
debug ip igmp is enabled
```

debug ip igmp error

Displays the IGMP multicast error messages.

Syntax

debug ip igmp error

no debug ip igmp error

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
Device# debug ip igmp error
IGMP.VRF3.ERR: Rx packet ttl 255 not 1. Dropping packet
IGMP.VRF3.ERR: Rx packet ttl 255 not 1. Dropping packet
IGMP.VRF3.ERR: Rx packet ttl 255 not 1. Dropping packet
```

debug ip igmp group

Matches the IGMP-enabled group based on the IP address.

Syntax

debug ip igmp group *ipaddr*

no debug ip igmp group *ipaddr*

Parameters

ipaddr

Refers to the IP address of the IGMP group.

Modes

Privileged EXEC mode

Examples

```
device# 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

Sets the debug level of the IGMP.

Syntax

debug ip igmp level *decimal*

no debug ip igmp level *decimal*

Parameters

decimal

Specifies the level of the IGMP. The valid values are from 1 through 3.

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp level 1
debug level = 1
device# debug ip ig show
igmp debug-enable-any = 1
debug ip igmp level 1 is enabled
device# debug ip igmp
device# IGMP: rcvd Report-V2(t=22) g=239.0.1.240 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 to
239.0.0.49, on v17 (phy 2/1/17), igmp_size=8
consume pkt
lIGMP send Query(t=17) V2, s=10.17.17.52 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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

Traces the IGMP packets.

Syntax

debug ip igmp packet *ipaddr*

no debug ip igmp packet *ipaddr*

Parameters

ipaddr

Specifies the IP address of the IGMP packet.

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp packet 10.17.17.222 239.0.0.155
debug ip igmp packet S=10.17.17.222 G=239.0.0.155
device# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp packet 10.17.17.222 239.0.0.155 is enabled
device# debug ip igmp
device#IGMP: rcvd Report-V2(t=22) g=239.0.1.160 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 to
239.0.1.173, on v17 (phy 2/1/17), igmp_size=8
device#IGMP: rcvd Report-V2(t=22) g=239.0.1.174 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 to
239.0.1.177, on v17 (phy 2/1/17), igmp_size=8
device#IGMP: rcvd Report-V2(t=22) g=239.0.1.178 resp=100, pkt S=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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=10.17.17.222 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

Matches the physical port that is connected.

Syntax

debug ip igmp physical-port ethernet*stackid* | *slot* | *port*

no debug ip igmp physical-port ethernet *stackid* | *slot* | *port*

Parameters

stackid | *slot* | *port*

Refers to the stack ID, slot number, and port number of a specific Ethernet port.

Modes

Privileged EXEC mode

Examples

```
device# 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

Monitors the activity of the physical port if the trunking is carried out on the primary port.

Syntax

debug ip igmp prime-port ethernet*stackid* | *slot* | *port*

no debug ip igmp prime-port ethernet *stackid* | *slot* | *port*

Parameters

stackid | *slot* | *port*

Refers to the stack ID, slot number, and port number of a specific Ethernet port.

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp prime-port ethernet 1/1/8
device# debug ip igmp show
igmp debug-enable-any = 1
debug ip igmp prime-port 1/1/8 is enabled
device#
device# debug ip igmp
device# IGMP: rcvd Report-V2(t=22) g=239.0.0.5 resp=100, pkt S=10.16.16.222 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=10.16.16.222 to 239.0.0.5,
on v16 (phy 1/1/8), igmp_size=8
```

debug ip igmp protocol

Displays debugging information about the IGMP queries and reports transmitted and received.

Syntax

debug ip igmp protocol [**query** | **report**]

no debug ip igmp protocol [**query** | **report**]

Parameters

query

Displays debugging information about the IGMP queries transmitted and received.

report

Displays debugging information about the IGMP reports transmitted and received.

Modes

Privileged EXEC mode

Examples

The following is the sample output from the **debug ip igmp protocol query** command.

```
device# debug ip igmp protocol query
device# IGMP.VRF0: [ Port 1/1/15,v74. Grp 0.0.0.0 ] Sent version 3 Query. size
12. Src 10.0.0.18
IGMP.VRF0: [ Port 1/1/15,v74 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 2/1/15,v75. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 2/1/15,v75 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 3/1/39,v76. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 3/1/39,v76 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 6/1/22,v77. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 6/1/22,v77 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 4/1/22,v78. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 4/1/22,v78 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 5/1/22,v79. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 5/1/22,v79 ] Sent General Query version 3 using src 10.0.0.18
```

The following is the truncated sample output from the **debug ip igmp protocol report** command.

```
device# debug ip igmp protocol report
device# IGMP.VRF0: [ Port 1/1/15,v74. Grp 0.0.0.0 ] Sent version 3 Query. size
12. Src 10.0.0.18
IGMP.VRF0: [ Port 1/1/15,v74 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 2/1/15,v75. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 2/1/15,v75 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 3/1/39,v76. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 3/1/39,v76 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 6/1/22,v77. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 6/1/22,v77 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 4/1/22,v78. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 4/1/22,v78 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: [ Port 5/1/22,v79. Grp 0.0.0.0 ] Sent version 3 Query. size 12. Src
10.0.0.18
IGMP.VRF0: [ Port 5/1/22,v79 ] Sent General Query version 3 using src 10.0.0.18
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.52
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.43
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.22
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.16
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.34
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.54
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.4
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.90
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.33
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.15
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.61
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.37
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.59
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.8
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.1
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.46
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.7
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.1
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.94
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.99
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.98
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.96
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.35
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.91
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.64
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.5
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.92
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.20
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.41
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.80
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.76
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.36
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.39
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.93
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.31
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.38
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.33
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.72
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.57
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.79
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.2
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.99
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.73
IGMP.VRF0: Type V2 Report Port 6/1/22,v77 Grp 228.0.0.59
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.40
IGMP.VRF0: Type V2 Report Port 5/1/22,v79 Grp 228.0.0.84
```

debug ip igmp proxy clear

Clears all the IGMP proxy debug settings.

Syntax

debug ip igmp proxy clear

no debug ip igmp proxy clear

Modes

Privileged EXEC mode

debug ip igmp proxy error

Displays the IGMP proxy error messages.

Syntax

debug ip igmp proxy error

no debug ip igmp proxy error

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp proxy error
Debug: Jan 2 03:26:25 1d 3:26:43 - MCPROXY_ERROR: ref count 1 for group entry
235.5.4.145
Debug: Jan 2 03:46:35 - MCPROXY_ERROR: ref count 1 for group entry 235.5.4.241
Debug: Jan 2 03:48:55 - MCPROXY_ERROR: ref count 1 for group entry 235.5.4.49
```

debug ip igmp proxy event

Enables debugging of IGMP proxy events.

Syntax

debug ip igmp proxy event

no debug ip igmp proxy event

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp proxy event
Debug: Jan 1 20:53:56 20:54:14 - MCPROXY_EVENT: [IPv4:default-vrf] receive group
229.2.1.1 state change
Debug: Jan 1 20:54:11 20:54:29 - MCPROXY_EVENT: [IPv4:default-vrf] receive group
229.2.1.1 state change
Debug: Jan 1 20:54:33 20:54:51 - MCPROXY_EVENT: [IPv4:default-vrf] receive group
229.2.1.1 state change
Debug: Jan 1 20:54:40 20:54:58 - MCPROXY_EVENT: [IPv4:default-vrf] receive group
229.2.1.1 state change
```

debug ip igmp proxy packet

Displays debugging information related to the IGMP proxy packets.

Syntax

debug ip igmp proxy packet

no debug ip igmp proxy packet

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp proxy packet
device# debug ip igmp enable
device# Debug: Jan  2 00:42:25 1d 0:42:34 - MCPROXY_TX: [IPv4:default-vrf] sending v1v2 grp 225.1.1.1
rprt
 to vir port v10 phy port 4/1/33
device# Debug: Jan  2 00:42:35 1d 0:42:43 - MCPROXY_TX: [IPv4:default-vrf] sending v1v2 grp 225.1.1.1
rprt
 to vir port v10 phy port 4/1/33
Debug: Jan  2 00:42:36 1d 0:42:44 - MCPROXY_TX: [IPv4:default-vrf] sending v1v2 grp 225.1.1.1 rprt
to vir port v10 phy port 4/1/33
```

debug ip igmp proxy rx

Displays the IGMP proxy packets received.

Syntax

debug ip igmp proxy rx

no debug ip igmp proxy rx

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp proxy rx
device# 0:29:31 - MCPROXY_RX: [IPv4:default-vrf] receive general query on port e2/1/3 max resp code 100
```

debug ip igmp proxy show

Displays the IGMP proxy debug settings.

Syntax

debug ip igmp proxy show

no debug ip igmp proxy show

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp proxy show
Mcast Proxy debug for IPv4:
Receive debug is enable
Transmit debug is enable
Error debug is enable
```

debug ip igmp proxy tx

Displays the IGMP proxy packets transmitted.

Syntax

debug ip igmp proxy tx

no debug ip igmp proxy tx

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp proxy tx
device# debug ip igmp enable
device# Debug: Jan  2 00:43:20 1d 0:43:29 - MCPROXY_TX: [IPv4:default-vrf] sending v1v2 grp 225.1.1.1
rprt
 to vir port v10 phy port 4/1/33
device# Debug: Jan  2 00:43:27 1d 0:43:36 - MCPROXY_TX: [IPv4:default-vrf] sending v1v2 grp 225.1.1.1
rprt
 to vir port v10 phy port 4/1/33
Debug: Jan  2 00:43:28 1d 0:43:37 - MCPROXY_TX: [IPv4:default-vrf] sending v1v2 grp 225.1.1.1 rprt
to vir port v10 phy port 4/1/33
```

debug ip igmp proxy vrf

Displays IGMP proxy related debug information for the specified VRF.

Syntax

debug ip igmp proxy vrf *vrf_name*

no debug ip igmp proxy vrf *vrf_name*

Parameters

vrf_name

Specifies the VRF name.

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp proxy vrf vrf1
Debug: Jan 1 21:43:08 21:43:26 - MCPROXY_TX: [IPv4:1] sending v1v2 grp 229.2.1.1
rprt to vir port v85 phy port 2/13
Debug: Jan 1 21:43:08 21:43:26 - MCPROXY_TX: [IPv4:1] receive group query
229.2.1.1 on port e2/13 max resp code 10
Debug: Jan 1 21:43:09 21:43:27 - MCPROXY_TX: [IPv4:1] receive group query
229.2.1.1 on port e2/13 max resp code 10
Debug: Jan 1 21:43:22 21:43:39 - MCPROXY_TX: [IPv4:1] sending v1v2 grp 229.2.1.1
rprt to vir port v85 phy port 2/13
Debug: Jan 1 21:43:23 21:43:41 - MCPROXY_TX: [IPv4:1] sending v1v2 grp 229.2.1.1
rprt to vir port v85 phy port 2/13
```

debug ip igmp rx

Displays the IGMP packets received.

Syntax

debug ip igmp rx

no debug ip igmp rx

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp rx
device# debug ip igmp protocol query
IGMP.VRF1: Query Port 1/1/3*1/1/14,v25 Grp 0.0.0.0
IGMP.QRY: [ Port 1/1/3*1/1/14,v25. Grp 0.0.0.0 ]. Processing version 2 query
IGMP.VRF1: Query Port 1/1/3*1/1/14,v25 Grp 0.0.0.0
IGMP.QRY: [ Port 1/1/3*1/1/14,v25. Grp 0.0.0.0 ]. Processing version 2 query
und allIGMP.VRF3: Query Port 1/1/3*1/1/14,v26 Grp 0.0.0.0
IGMP.QRY: [ Port 1/1/3*1/1/14,v26. Grp 0.0.0.0 ]. Processing version 2 query
```

debug ip igmp show

Displays the IGMP debug settings.

Syntax

debug ip igmp show *decimal*

no debug ip igmp show *decimal*

Parameters

decimal

Specifies the level of the IGMP. The valid values are from 1 through 3.

Modes

Privileged EXEC mode

Usage Guidelines

Do not use the **show debug** command for this purpose. The **show debug** command displays general debug information.

Examples

```
device# 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
```

debug ip igmp source

Matches the source of the control packet or IGMP V3 source packets.

Syntax

debug ip igmp source *ipaddr*

no debug ip igmp source *ipaddr*

Parameters

ipaddr

Specifies the IP address of the IGMP source.

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp source 16.16.16.222
device# 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

Monitors the IGMP timer activity.

Syntax

debug ip igmp timer

no debug ip igmp timer

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp timer
monitor timer activity
```

debug ip igmp tx

Displays the IGMP packets transmitted.

Syntax

debug ip igmp tx

no debug ip igmp tx

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp tx
device# debug ip igmp protocol query
IGMP.VRF2: [ Port 1/1/3*1/1/14,v21. Grp 0.0.0.0 ] Sent version 2 Query. size 8.
Src 21.0.0.6
IGMP.VRF2: [ Port 1/1/3*1/1/14,v21 ] Sent General Query version 2 using src
21.0.0.6
IGMP.VRF0: [ Port 1/1/7-1/1/8,tn11. Grp 0.0.0.0 ] Sent version 2 Query. size 8.
Src 61.0.0.6
IGMP.VRF0: [ Port 1/1/7-1/1/8,tn11 ] Sent General Query version 2 using src
61.0.0.6
IGMP.VRF0: [ Port 1/1/1-1/1/2,v91. Grp 0.0.0.0 ] Sent version 2 Query. size 8. Src
91.0.0.6
IGMP.VRF0: [ Port 1/1/1-1/1/2,v91 ] Sent General Query version 2 using src
91.0.0.6
```

debug ip igmp vrf

Displays IGMP-related debug information for the specified VRF.

Syntax

debug ip igmp vrf *vrf_name*

no debug ip igmp vrf *vrf_name*

Modes

Privileged EXEC mode

Examples

```
device# debug ip igmp group 225.1.1.1
device# debug ip igmp protocol report
device# debug ip igmp enable
device# debug ip igmp vrf br_vrf_1
device# Debug: Jan  2 00:24:23 IGMP.VRF1: Type V2 Report Port 2/1/21,v1 Grp 225.1.1.1
```

debug ip msdp

Generates information about Multicast Source Discovery Protocol (MSDP) alarms, events, and messages.

Syntax

debug ip msdp [**alarms** | **events** | **message**]

Parameters

alarms

Displays information about the MSDP alarms.

events

Displays information about the MSDP events.

message

Displays information about the MSDP messages.

Modes

Privileged EXEC mode

Examples

The following example displays information about the MSDP processing alarms.

```
device# 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
```

The following example displays information about originating SA-advertisements, major peer events, and peer-keepalive timer events.

```
device# debug ip msdp events
: MSDP: 10.120.120.45: Process START event, local = 10.120.120.31
: MSDP: S=xxxxxxx P=0 Initiate Transport Connection to MSDP peer
: MSDP: 10.120.120.45: TCP Connection to Remote Peer is Open
: MSDP: 10.120.120.45: MSDP-TCP Connection opened
: MSDP: 10.120.120.45: TCP_OPEN DONE, State 4
: MSDP: Remote Peer closed TCP connection
: MSDP: 10.120.120.45 Remote Peer closed TCP connection
: MSDP: Originating SA
: MSDP: Originating SA
: MSDP: Originating SA
: MSDP: Originating SA
: MSDP: Originating SA
```

The following example displays information about MSDP messages received, transmitted and forwarded, and flag errors in the MSDP messages.

```
device# debug ip msdp message
: MSDP: 10.0.0.32: Xmt KA
: MSDP: 10.0.0.32: State=4, Rcv SA 20 bytes
RP: 10.0.0.32, Num SA: 1 10.17.17.1,237.14.18.3
: MSDP: 10.0.0.32: State=4, Rcv KA
: MSDP: 10.0.0.32: State=4, Rcv SA 20 bytes
RP: 10.0.0.32, Num SA: 1 10.17.17.1,237.14.18.3
: MSDP: 10.0.0.32: State=4, Rcv KA
: MSDP: 10.0.0.32: Xmt SA 32 bytes
RP: 10.0.0.45, Num SA: 2 10.14.14.14,237.14.18.3 10.17.17.1,237.14.18.3
: MSDP: 10.0.0.32: Xmt KA
: MSDP: 10.0.0.32: State=4, Rcv SA 20 bytes
RP: 10.0.0.32, Num SA: 1 10.17.17.1,237.14.18.3
```

debug ip ntp

Displays NTP system information.

Syntax

debug ip ntp [**algorithms** | **association** | **broadcast** | **clockadjust** | **errors** | **packet** | **server**]

Parameters

algorithms
Displays information about the NTP system algorithms.

association
Displays information about the NTP server and peer association.

broadcast
Displays information about the NTP broadcast server and client.

clockadjust
Displays information about the NTP clock-adjust process.

errors
Displays information about the NTP error events.

packet
Displays information about the NTP input and output packets.

server
Displays information about the NTP server.

Modes

Privileged EXEC mode

Examples

The following example displays information about the NTP system algorithms.

```
device# debug ip ntp algorithms
NTP: ntp_peer_unfit: dist exceeded - root dist 16.00527999 of peer 10.25.96.13 has
exceeded max dist 1.50096000
NTP: ntp_peer_unfit: unreachable - peer 10.25.96.13 is not reachable [peer->reach
0]
device(config-ntp)# NTP: ntp_clock_filter: Adding offset 0, delay 0, disp 16 to
filter[0] for peer 10.25.96.13
NTP: ntp_clock_filter: No acceptable samples available
NTP: ntp_clock_filter: Adding offset 0.01133625, delay 0.27379156, disp
0.00001936 to filter[1] for peer 10.25.96.13
NTP: ntp_clock_filter: mitigated sample stats: n 1 offset 0.01133625 del
0.27379156 dsp 7.93750968 jit 0.00001525
NTP: ntp_peer_unfit: dist exceeded - root dist 8.07442072 of peer 10.25.96.13 has
exceeded max dist 1.50096000
NTP: ntp_clock_select: number of final survivors 0 and leap vote 0
NTP: ntp_clock_select: No survivors found. sys_peer is set to NULL
NTP: ntp_clock_filter: Adding offset 0.02724471, delay 0.30800050, disp
0.00001988 to filter[2] for peer 10.25.96.13
NTP: ntp_clock_filter: mitigated sample stats: n 2 offset 0.02724471 del
0.30800050 dsp 3.93752228 jit 0.00001525
NTP: ntp_peer_unfit: dist exceeded - root dist 4.09153779 of peer 10.25.96.13 has
exceeded max dist 1.50096000
NTP: ntp_clock_update: at 430 sample 430 associd 2
NTP: ntp_rstclock: mu 67 new state 5 old state 5 offset -0.00001326
```

The following example displays information about the NTP server and peer association.

```
device# debug ip ntp association
NTP: peer_clear: peer 10.25.96.13 next 646 refid INIT
NTP: newpeer: 10.25.96.13 mode client vers 4 poll 6 10 key 00000000
Flags Flags -> iBURST
SYSLOG: <14>Mar 21 17:44:33 Murali NTP: client association is mobilized for
10.25.96.13.
SYSLOG: <14>Mar 21 17:44:33 Murali NTP: The system clock is not synchronized to
any time source.
SYSLOG: <14>Mar 21 17:44:40 Murali NTP: Stratum is changed to 2.
SYSLOG: <14>Mar 21 17:44:40 Murali NTP: System clock is synchronized to
10.25.96.13.
```

The following example displays information about the NTP clock-adjust process.

```
device# debug ip ntp clockadjust
NTP: ntp_clock_update: at 327 sample 327 associd 3
NTP: ntp_local_clock: hufbuf - ptr 1 mindly 0.23329046 huffpuff correction
-0.00067095
NTP: ntp_local_clock: clk offset 0.00917431 clk jit 0 clk stab 0 sys_poll 6
NTP: ntp_set_freq: drift 0.00000010, old freq 50000000
NTP: ntp_set_freq: new freq 49999995
NTP: ntp_adj_host_clock: new offset 0.00917431, freq 49999995
NTP: Adjusting the clock. offset 0.00917431, calib used 251687
NTP: After adjusting the clock. offset 0.00817431, calib used 252687
NTP: Adjusting the clock. offset 0.00817431, calib used 252687
NTP: After adjusting the clock. offset 0.00717431, calib used 253687
NTP: Adjusting the clock. offset 0.00717431, calib used 253687
```

The following example displays information about the NTP input and output packets.

```
device# debug ip ntp packet
NTP: Sending the NTP client packet to 10.25.96.13 port 123 via port id INVALID
Leap 3, Version 4, Mode client, Stratum 16, Poll 6,
Precision 2**-16, Root delay 0, Root disp 167, Ref Id INIT,
Ref time 0.0 (00:00:00.0 GMT+00 Mon Jan 01 0)
Org 0.0 (00:00:00.0 GMT+00 Mon Jan 01 0)
Rec 0.0 (00:00:00.0 GMT+00 Mon Jan 01 0)
Xmt 230.745068249 (00:03:50.745068249 GMT+00 Mon Jan 01 0) pkt len = 48 key 0
NTP: Received NTP server packet from 10.25.96.13 on port 123 via port id mgmt1 at
00:03:50.1959316492 GMT+00 Mon Jan 01 0
Leap 0, Version 4, Mode server, Stratum 1, Poll 6,
Precision 2**-29, Root delay 0, Root disp 0, Ref Id 10.67.84.83,
Ref time 3572876227.2200200252 (17:37:07.2200200252 GMT+00 Thu Mar 21 2013)
Org 230.745068249 (00:03:50.745068249 GMT+00 Mon Jan 01 0)
Rec 3572876241.37257170 (17:37:21.37257170 GMT+00 Thu Mar 21 2013)
Xmt 3572876241.37302765 (17:37:21.37302765 GMT+00 Thu Mar 21 2013) pkt len =
48 key 0
NTP: Sending the NTP client packet to 10.25.96.13 port 123 via port id INVALID
Leap 3, Version 4, Mode client, Stratum 16, Poll 6,
Precision 2**-16, Root delay 0, Root disp 169, Ref Id INIT,
Ref time 0.0 (00:00:00.0 GMT+00 Mon Jan 01 0)
Org 3572876241.37302765 (17:37:21.37302765 GMT+00 Thu Mar 21 2013)
Rec 230.1959316492 (00:03:50.1959316492 GMT+00 Mon Jan 01 0)
Xmt 232.784360585 (00:03:52.784360585 GMT+00 Mon Jan 01 0) pkt len = 48 key 0
NTP: Received NTP server packet from 10.25.96.13 on port 123 via port id mgmt1 at
00:03:52.1904063455 GMT+00 Mon Jan 01 0
Leap 0, Version 4, Mode server, Stratum 1, Poll 6,
Precision 2**-29, Root delay 0, Root disp 0, Ref Id 10.67.84.83,
Ref time 3572876227.2200200252 (17:37:07.2200200252 GMT+00 Thu Mar 21 2013)
Org 232.784360585 (00:03:52.784360585 GMT+00 Mon Jan 01 0)
Rec 3572876243.75963892 (17:37:23.75963892 GMT+00 Thu Mar 21 2013)
Xmt 3572876243.76010686 (17:37:23.76010686 GMT+00 Thu Mar 21 2013) pkt len =
48 key 0
```

The following example displays information about the NTP server.

```
device# debug ip ntp server
NTP: Received NTP client packet from 172.26.67.52 on port 123 via port id mgmt1 at
18:02:44.1139927355 GMT+00 Thu Mar 21 2013
Leap 0, Version 4, Mode client, Stratum 3, Poll 6,
Precision 2**-16, Root delay 16102, Root disp 90471, Ref Id 172.26.67.65,
Ref time 3572877762.1183164018 (18:02:42.1183164018 GMT+00 Thu Mar 21 2013)
Org 3572877762.1141785444 (18:02:42.1141785444 GMT+00 Thu Mar 21 2013)
Rec 3572877762.1183164018 (18:02:42.1183164018 GMT+00 Thu Mar 21 2013)
Xmt 3572877764.1137502159 (18:02:44.1137502159 GMT+00 Thu Mar 21 2013) pkt len
= 48 key 0
device(config-ntp)# NTP: poll_update: for peer 10.250.229.100 hpoll 6 burst 0
retry 0 throttle 62 next poll 64
NTP: Received NTP server packet from 10.250.229.100 on port 123 via port id mgmt1
at 18:03:09.1891314446 GMT+00 Thu Mar 21 2013
Leap 0, Version 4, Mode server, Stratum 1, Poll 6,
Precision 2**-29, Root delay 0, Root disp 0, Ref Id 10.67.84.83,
Ref time 3572877762.155297680 (18:02:42.155297680 GMT+00 Thu Mar 21 2013)
Org 3572877789.878229501 (18:03:09.878229501 GMT+00 Thu Mar 21 2013)
Rec 3572877789.1401109720 (18:03:09.1401109720 GMT+00 Thu Mar 21 2013)
Xmt 3572877789.1401162509 (18:03:09.1401162509 GMT+00 Thu Mar 21 2013) pkt len
= 48 key 0
NTP: poll_update: for peer 10.250.229.100 hpoll 6 burst 0 retry 0 throttle 62 next
poll 67
```

debug ip ospf

Generates OSPF debugging information for the specified IP address. Output indicates state transitions, hello packets received, LSA acknowledgements received, LSA processing, flooding information, and database descriptions.

Syntax

debug ip ospf

no debug ip ospf

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip ospf 10.1.1.2
OSPF: debug ospf neighbor 10.1.1.2
device(config)# OSPF: rcvd hello from 10.1.1.2 area 0 on interface 10.1.1.1,
state DR, DR 10.1.1.1, BDR 10.1.1.2
OSPF: Neighbor 10.1.1.2, int v115, state FULL processing event HELLO_RECEIVED
OSPF: rcvd hello from 10.1.1.2 area 0 on interface 10.1.1.1, state DR, DR
10.1.1.1, BDR 10.1.1.2
OSPF: Neighbor 10.1.1.2, int v115, state FULL processing event HELLO_RECEIVED
OSPF: rcvd hello from 10.1.1.2 area 0 on interface 10.1.1.1, state DR, DR
10.1.1.1, BDR 10.1.1.2
OSPF: Neighbor 10.1.1.2, int v115, state FULL processing event HELLO_RECEIVED
```

debug ip ospf adj

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.

Syntax

debug ip ospf adj *decimal*

nodebug ip ospf adj*decimal*

Parameters

decimal

Refers to a specific adjacency event.

Modes

Privileged EXEC mode

Examples

```
device# debug ip ospf adj
OSPF: adjacency events debugging is on
device# debug ip ospf adj OSPF: send hello on area 0 interface 10.1.1.1
OSPF: rcvd hello from 10.1.1.2 area 0 on interface 10.1.1.1, state DR, DR
10.1.1.1, BDR 10.1.1.2
OSPF: Neighbor 10.1.1.2, int v115, state FULL processing event HELLO_RECEIVED
OSPF: send hello on area 0 interface 10.1.1.1
OSPF: rcvd hello from 10.1.1.2 area 0 on interface 10.1.1.1, state DR, DR
10.1.1.1, BDR 10.1.1.2
OSPF: Neighbor 10.1.1.2, int v115, state FULL processing event HELLO_RECEIVED
OSPF: send hello on area 0 interface 10.1.1.1
OSPF: rcvd hello from 10.1.1.2 area 0 on interface 10.1.1.1, state DR, DR
10.1.1.1, BDR 10.1.1.2
OSPF: Neighbor 10.1.1.2, int v115, state FULL processing event HELLO_RECEIVED
```

debug ip ospf all-vrfs route

Displays OSPF debugging information for all VPN routing and forwarding activity.

Syntax

debug ip ospf all-vrfs route

no debug ip ospf all-vrfs route

Modes

Privileged EXEC mode

Examples

```
device# debug ip ospf all-vrfs route
SPF: redistribute into ospf 10.3.13.0 with ffffff00 forwarding address 10.4.4.3
OSPF: originate external lsa 10.3.13.0 with ffffff00
OSPF: Originate external advs ext fwding address 10.4.4.3
```

debug ip ospf error

Reports the receipt of OSPF packets with errors, or mismatches between hello packet options.

Syntax

debug ip ospf error

no debug ip ospf error

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip ospf error
OSPF: errors debugging is on
device(config-vif-9)# Debug: Jan 1 03:37:11 OSPF: invalid header or unable to
find neighbor, drop
Debug: Jan 1 03:37:11 OSPF: recv from:10.9.9.2 Intf:ve 9 Hello L:48 A:1
Rid:10.2.2.2 DR:10.9.9.2 BDR:0.0.0.0
Debug: Jan 1 03:37:23 OSPF: invalid header or unable to find neighbor, drop
Debug: Jan 1 03:37:23 OSPF: recv from:10.9.9.2 Intf:ve 9 Hello L:48 A:1
Rid:10.2.2.2 DR:10.9.9.2 BDR:0.0.0.0
Debug: Jan 1 03:37:34 OSPF: invalid header or unable to find neighbor, drop
Debug: Jan 1 03:37:34 OSPF: recv from:10.9.9.2 Intf:ve 9 Hello L:48 A:1
Rid:10.2.2.2 DR:10.9.9.2 BDR:0.0.0.0
```

debug ip ospf event

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

Syntax

debug ip ospf event

no debug ip ospf event

Modes

Privileged EXEC mode

Examples

```
device# debug ip ospf event
OSPF: events debugging is on
device# OSPF: Interface ve 18 (10.1.18.1) state Waiting processing event Wait
Timer
OSPF: DR/BDR election for 10.1.18.1 on ve 18
OSPF: Neighbor 10.213.213.213 int v18, state 2_WAY processing event ADJACENCY_OK
OSPF: send DBD to 10.213.213.213 on ve 18 flag 0x7 seq 0x18a3b9 len 32
OSPF: elect BDR(backup designated router): Router ID 10.213.213.213 IP interface
10.1.18.2
OSPF: elect DR(designated router): Router ID 10.10.10.77, IP interface 10.1.18.1
OSPF: Neighbor 10.116.116.1 int 2/1/21, state FULL processing event HELLO_RECEIVED
OSPF: Neighbor 10.116.116.1 int v511, state FULL processing event HELLO_RECEIVED
OSPF: Neighbor 10.116.116.1 int v911, state FULL processing event HELLO_RECEIVED
OSPF: Neighbor 41.41.41.41 int v35, state FULL processing event HELLO_RECEIVED
OSPF: Neighbor 10.213.213.213 int 2/1/14, state 2_WAY processing event
HELLO_RECEIVED
OSPF: Neighbor 10.116.116.1 int v511, state FULL processing event HELLO_RECEIVED
OSPF: send DBD to 10.213.213.213 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 10.213.213.213 int v18, state EXCHANGE_START processing event
HELLO_RECEIVED
OSPF: Neighbor 10.213.213.213 int 4/1/12, state FULL processing event
HELLO_RECEIVED
device# OSPF: Interface ethernet 4/1/12 (10.1.51.2) state Down processing event
Interface Up
virtual interface 10.1.51.2 up, state changed to Other from Point To Point
no deOSPF: Neighbor 10.213.213.213 int 4/1/12, state DOWN processing event
HELLO_RECEIVED
OSPF: Neighbor 10.213.213.213 int 4/1/12, state INITIALIZING processing event
ONE_WAY
bug ip OSPF: Neighbor 10.213.213.213 int 4/1/12, state INITIALIZING processing
event HELLO_RECEIVED
```

debug ip ospf flood

Displays information about LSA flooding activity

Syntax

debug ip ospf flood

no debug ip ospf flood

Modes

Privileged EXEC mode

Examples

```
device# debug ip ospf flood
OSPF: flooding debugging is on
device(config-if-e1000-1/1/15)#OSPF: flood LSA Type:1 AdvRtr:10.2.1.1 Age:0
LsId:10.2.1.1
OSPF: flood advertisement 10.2.1.1 throughout a specific area = 0
OSPF: flood LSA Type:1 AdvRtr:10.2.1.1 Age:0 LsId:10.2.1.1
OSPF: flood advertisement 10.2.1.1 throughout a specific area = 0
OSPF: flooding type 1 advertisement out interface 10.1.1.1
OSPF: attempting to flood rcvd LSA area = 0 interface type = 1
OSPF: flood LSA Type:1 AdvRtr:10.3.1.1 Age:1 LsId:10.3.1.1
OSPF: flood advertisement 10.3.1.1 throughout a specific area = 0
OSPF: attempting to flood rcvd LSA area = 0 interface type = 1
OSPF: flood LSA Type:2 AdvRtr:10.3.1.1 Age:3600 LsId:10.1.1.2
OSPF: flood advertisement 10.1.1.2 throughout a specific area = 0
OSPF: flood LSA Type:1 AdvRtr:10.2.1.1 Age:0 LsId:10.2.1.1
OSPF: flood advertisement 10.2.1.1 throughout a specific area = 0
OSPF: flooding type 1 advertisement out interface 10.1.1.1
OSPF: attempting to flood rcvd LSA area = 0 interface type = 1
OSPF: flood LSA Type:1 AdvRtr:10.3.1.1 Age:1 LsId:10.3.1.1
OSPF: flood advertisement 10.3.1.1 throughout a specific area = 0
OSPF: attempting to flood rcvd LSA area = 0 interface type = 1
OSPF: flood LSA Type:2 AdvRtr:10.3.1.1 Age:1 LsId:10.1.1.2
OSPF: flood advertisement 10.1.1.2 throughout a specific area = 0
```

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.

Syntax

debug ip ospf graceful-restart

no debug ip ospf graceful-restart

Modes

Privileged EXEC mode

Examples

```
device# debug ip ospf graceful-restart
OSPF: graceful-restart debugging is on
device# LSA flush rcvd Type:4 AdvRtr:83.83.10.11 LsId:10.213.213.213
LSA flush rcvd Type:4 AdvRtr:83.83.10.11 LsId:10.213.213.213
LSA flush rcvd Type:4 AdvRtr:10.116.116.1 LsId:10.205.205.205
LSA flush rcvd Type:4 AdvRtr:10.116.116.1 LsId:10.205.205.205
rcv GRACE LSA from 10.1.14.1, age 0, Adv 10.213.213.213
install new GraceLSA, int 269, neighbor 10.1.14.1, age 0
rcv Grace_LSA from 10.1.14.1, area 0.0.0.10
Recvd grace lsa id=50331648 state=8 0x2dd5d5d5 0x2dd5d5d5 age=0 gr-state=0
neighbor 10.1.14.1 entering graceful restart state, timer 120, lsa age 0, max
120, helping 0
flood grace LSA, AdvRtr:10.213.213.213, Age:0
rcv GRACE LSA from 10.1.51.1, age 0, Adv 10.213.213.213
install new GraceLSA, int 779, neighbor 10.1.51.1, age 0
rcv Grace_LSA from 10.1.51.1, area 0.0.0.10
Recvd grace lsa id=50331648 state=8 0x2dd5d5d5 0x2dd5d5d5 age=0 gr-state=0
neighbor 10.1.51.1 entering graceful restart state, timer 120, lsa age 0, max
120, helping 0
flood grace LSA, AdvRtr:10.213.213.213, Age:0
rcv GRACE LSA from 10.1.18.2, age 0, Adv 10.213.213.213
install new GraceLSA, int 2050, neighbor 10.1.18.2, age 0
rcv Grace_LSA from 10.1.18.2, area 0.0.0.10
Recvd grace lsa id=50331648 state=8 0x2dd5d5d5 0x2dd5d5d5 age=0 gr-state=0
neighbor 10.1.18.2 entering graceful restart state, timer 120, lsa age 0, max
120, helping 0
flood grace LSA, AdvRtr:10.213.213.213, Age:0
rcv GRACE LSA from 10.1.14.1, age 0, Adv 10.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 10.1.14.1
restart timer to 120
rcv GRACE LSA from 10.1.51.1, age 0, Adv 10.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 10.1.51.1
restart timer to 120
rcv GRACE LSA from 10.1.18.2, age 0, Adv 10.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 10.1.18.2
restart timer to 120
rcv GRACE LSA from 10.1.14.1, age 0, Adv 10.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 10.1.14.1
restart timer to 120
rcv GRACE LSA from 10.1.51.1, age 0, Adv 10.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 10.1.51.1
restart timer to 120
rcv GRACE LSA from 10.1.18.2, age 0, Adv 10.213.213.213
Update same instance GRACE LSA age to 0 in database, refresh neighbor 10.1.18.2
restart timer to 120
device# no debug ip ospf graceful-restart
OSPF: graceful-restart debugging is off
```

debug ip ospf log-empty-lsa

Displays information about empty link state advertisements (LSAs).

Syntax

debug ip ospf log-empty-lsa

no debug ip ospf log-empty-lsa

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip ospf log-empty-lsa
device(config-if-e1000-1/1/15)# debug ip ospf log-empty-lsa
OSPF: empty-LSA logging debugging is on
device(config-if-e1000-1/1/15)# debug ip ospf flOSPF: originate router LSA, area
0
OSPF: No difference found, restart 0
OSPF: send ls request to neighbor 10.1.1.2, retran 0
OSPF: sending ls request last size 36, count 1
OSPF: LSA rcvd Type:1 AdvRtr:10.2.1.1 Age:297 LsId:10.2.1.1 Seq-Num 8000000e from
Neighbor 10.1.1.2
OSPF: Received self originated LSA type 1 with id = 10.2.1.1 Seq-Num 8000000e
OSPF: install a new lsa, type 1, ls_id 10.2.1.1, age 0, seq 8000000f area-id 0
OSPF: NSR Sync ACK received for LSA
OSPF: ls_header.id 10.2.1.1 type 1 ToBesyncedState 2
OSPF: NSR : Sync node add, type 1, ls_id 10.2.1.1, age 0, seq 8000000f
OSPF: send_ls_update to interface 10.1.1.1 (224.0.0.6) tb 962478204, retran 0
OSPF: tx LSA Type:1 AdvRtr:10.2.1.1 Age:1 LsId:10.2.1.1
OSPF: originate router LSA, area 0
OSPF: originate_router_links_advertisement gen new instance set 10.2.1.1 (not
sent - wait for MinLSInterval)
OSPF: LSA rcvd Type:1 AdvRtr:10.3.1.1 Age:1 LsId:10.3.1.1 Seq-Num 8000000f from
Neighbor 10.1.1.2
OSPF: install a new lsa, type 1, ls_id 10.3.1.1, age 1, seq 8000000f area-id 0
OSPF: NSR Sync ACK received for LSA
OSPF: ls_header.id 10.3.1.1 type 1 ToBesyncedState 2
OSPF: NSR : Sync node add, type 1, ls_id 10.3.1.1, age 1, seq 8000000f
OSPF: LSA rcvd Type:2 AdvRtr:10.3.1.1 Age:3600 LsId:115.1.1.2 Seq-Num 80000005
from Neighbor 10.1.1.2
OSPF: install a new lsa, type 2, ls_id 10.1.1.2, age 3600, seq 80000005 area-id 0
OSPF: NSR Sync ACK received for LSA
OSPF: ls_header.id 105.1.1.2 type 2 ToBesyncedState 2
OSPF: NSR : Sync node add, type 2, ls_id 10.1.1.2, age 3600, seq 80000005
oOSPF: trying age out LSA, id 10.1.1.2, len 32, type 2, from 10.3.1.1, age 3600
genNewLsa 0 area 0
OSPF: age out and remove lsa data base 10.1.1.2
odsOSPF: OSPF TIMER: Minlsa: sptr_database_entry generate_new_instance == TRUE
for 1.2.1.1
OSPF: originate_delayed LSA, type 1, parm1: 0x0
OSPF: originate router LSA, area 0
OSPF: difference found, restart 0
OSPF: install a new lsa, type 1, ls_id 10.2.1.1, age 0, seq 80000010 area-id 0
OSPF: NSR Sync ACK received for LSA
OSPF: ls_header.id 10.2.1.1 type 1 ToBesyncedState 2
OSPF: NSR : Sync node add, type 1, ls_id 10.2.1.1, age 0, seq 80000010
OSPF: OSPF: rcv LSA ack from 10.1.1.2, type 1, id 1.2.1.1, seq 0x8000000f, adv
10.2.1.1, age 1
OSPF: send_ls_update to interface 10.1.1.1 (224.0.0.6) tb 1017253324, retran 0
OSPF: tx LSA Type:1 AdvRtr:10.2.1.1 Age:1 LsId:10.2.1.1
OSPF: LSA rcvd Type:1 AdvRtr:10.3.1.1 Age:1 LsId:10.3.1.1 Seq-Num 80000010 from
Neighbor 10.1.1.2
OSPF: install a new lsa, type 1, ls_id 10.3.1.1, age 1, seq 80000010 area-id 0
OSPF: NSR Sync ACK received for LSA
OSPF: ls_header.id 10.3.1.1 type 1 ToBesyncedState 2
OSPF: NSR : Sync node add, type 1, ls_id 10.3.1.1, age 1, seq 80000010
OSPF: LSA rcvd Type:2 AdvRtr:10.3.1.1 Age:1 LsId:10.1.1.2 Seq-Num 80000006 from
Neighbor 10.1.1.2
OSPF: install a new lsa, type 2, ls_id 10.1.1.2, age 1, seq 80000006 area-id 0
OSPF: NSR Sync ACK received for LSA
OSPF: ls_header.id 10.1.1.2 type 2 ToBesyncedState 2
OSPF: NSR : Sync node add, type 2, ls_id 10.1.1.2, age 1, seq 80000006
OSPF: OSPF: rcv LSA ack from 10.1.1.2, type 1, id 10.2.1.1, seq 0x80000010, adv
10.2.1.1, age 1
OSPF: originate router LSA, area 0
OSPF: No difference found, restart 0
```

debug ip ospf lsa-generation

Displays information about link state advertisements (LSAs).

Syntax

debug ip ospf lsa-generation

no debug ip ospf lsa-generation

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip ospf lsa-generation
OSPF: lsa generation debugging is on
device(config-if-e1000-1/1/15)#OSPF: originate router LSA, area 0
OSPF: trying age out LSA, id 10.2.1.1, len 36, type 1, from 10.2.1.1, age 3600
genNewLsa 0 area 0
OSPF: age out and remove lsa data base 10.2.1.1
```

debug ip ospf lsa-id

Generates information about OSPF Link-State Advertisement (LSA) IDs.

Syntax

debug ip ospf lsa-id

no debug ip ospf lsa-id

Modes

Privileged EXEC mode

Global Configuration mode

Usage Guidelines

The **debug ip ospf lsa-id** command must be enabled with the **debug ip ospf flood** or the **debug ip ospf lsa-generation** command.

Examples

```
device# debug ip ospf lsa-id
Debug message destination: Console
IP Routing:
OSPF: flooding debugging is on
OSPF: lsa generation debugging is on
OSPF: ls-id 10.2.2.2 debugging is on
device(config-ospf-router)# Debug: Jan 1 04:12:50 OSPF: LSA rcvd Type:1
AdvRtr:10.2.2.2 Age:1 LsId:10.2.2.2 Seq-Num 8000000e from Neighbor 10.9.9.2
Debug: Jan 1 04:12:50 OSPF: install a new lsa, type 1, ls_id 10.2.2.2, age 1, seq
8000000e area-id 0
Debug: Jan 1 04:12:50 OSPF: NSR Sync ACK received for LSA
Debug: Jan 1 04:12:50 OSPF: ls_header.id 10.2.2.2 type 1 ToBesyncedState 2
Debug: Jan 1 04:12:50 OSPF: NSR : Sync node add, type 1, ls_id 10.2.2.2, age 1,
seq 8000000e
Debug: Jan 1 04:12:50 OSPF: attempting to flood rcvd LSA area = 0 interface type
= 1
Debug: Jan 1 04:12:50 OSPF: flood LSA Type:1 AdvRtr:10.2.2.2 Age:1 LsId:10.2.2.2
Debug: Jan 1 04:12:50 OSPF: flood advertisement 10.2.2.2 throughout a specific
area = 0
Debug: Jan 1 04:12:51 OSPF: LSA rcvd Type:1 AdvRtr:10.2.2.2 Age:1 LsId:10.2.2.2
Seq-Num 8000000f from Neighbor 10.9.9.2
Debug: Jan 1 04:12:51 OSPF: install a new lsa, type 1, ls_id 10.2.2.2, age 1, seq
8000000f area-id 0
Debug: Jan 1 04:12:51 OSPF: NSR Sync ACK received for LSA
Debug: Jan 1 04:12:51 OSPF: ls_header.id 10.2.2.2 type 1 ToBesyncedState 2
Debug: Jan 1 04:12:51 OSPF: NSR : Sync node add, type 1, ls_id 10.2.2.2, age 1,
seq 8000000f
Debug: Jan 1 04:12:51 OSPF: attempting to flood rcvd LSA area = 0 interface type
= 1
Debug: Jan 1 04:12:51 OSPF: flood LSA Type:1 AdvRtr:10.2.2.2 Age:1 LsId:10.2.2.2
Debug: Jan 1 04:12:51 OSPF: flood advertisement 10.2.2.2 throughout a specific
area = 0
```

debug ip ospf max-metric

Displays debugging information about the max-metric configuration.

Syntax

debug ip ospf max-metric

no debug ip ospf max-metric

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip ospf max-metric
OSPF: max-metric debugging is on
device(config-ospf-router)# max-metric router-lsa all-lsas
Debug: Jan 1 04:20:05 OSPF: Max-metric advertisement started due to configuration
change for vrf 0
```

debug ip ospf packet

Generates debugging information about the Open Shortest Path First (OSPF) packets.

Syntax

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**}]

no debug ip ospf packet

Parameters

detail *decimal*
Refers to the level by bit 0 and 1 and stack trace send by bit 2.

in
Refers only to the input packets.

out
Refers only to the output packets.

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 ID of the virtual Ethernet interface.

src-ip *ip-addr*
Matches with the source IP address.

type
Matches with the packet type.

ack
Indicates the acknowledgement packet type.

dd
Indicates the Database Description (DD) packet type.

hello
Indicates the hello packet type.

request
Indicates the request packets sent from a client to a server.

update
Indicates the update packets sent from a server to a client.

Modes

Privileged EXEC mode

Examples

```
device# debug ip ospf packet
device# OSPF: recv from:10.1.14.1 to 224.0.0.5 Intf:e 2/1/14 LS-Ack L:104 Auth:0
ID:10.213.213.213
OSPF: recv from:10.1.18.2 to 224.0.0.5 Intf:ve 18 LS-Ack L:104 Auth:0
ID:10.213.213.213
OSPF: send to:224.0.0.5 Intf:ve 36 Hello L:44 Auth:0 ID:10.10.10.77 DR:10.36.2.1
BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:ve 36 Hello L:44 Auth:0 ID:10.10.10.77
DR:10.36.100.1 BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:ve 511 Hello L:48 Auth:0 ID:10.10.10.77
DR:10.1.251.7 BDR:10.1.251.6
OSPF: send to:224.0.0.5 Intf:e 2/1/14 Hello L:48 Auth:0 ID:10.10.10.77
DR:10.1.14.2 BDR:10.1.14.1
OSPF: send to:224.0.0.5 Intf:e 2/1/21 LS-Ack L:104 Auth:0 ID:10.10.10.77
OSPF: send to:224.0.0.5 Intf:e 2/1/21 Hello L:48 Auth:0 ID:10.10.10.77 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:10.10.10.77
DR:10.1.35.16 BDR:10.1.35.15
OSPF: send to:10.1.251.6 Intf:ve 511 Hello L:48 Auth:0 ID:10.10.10.77 DR:0.0.0.0
BDR:0.0.0.0
OSPF: send to:10.1.18.2 Intf:e 4/1/12 Hello L:48 Auth:0 ID:10.10.10.77 DR:0.0.0.0
BDR:0.0.0.0
OSPF: recv from:10.1.35.15 to 224.0.0.5 Intf:ve 35 LS-Ack L:104 Auth:0
ID:41.41.41.41
OSPF: recv from:10.1.251.18 to 10.1.251.17 Intf:e 2/1/21 Hello L:48 Auth:0
ID:10.116.116.1 DR:0.0.0.0 BDR:0.0.0.0
OSPF: recv from:10.1.34.10 to 224.0.0.5 Intf:ve 34 LS-Ack L:104 Auth:0
ID:49.2.3.4
OSPF: recv from:10.1.34.10 to 224.0.0.5 Intf:ve 34 Hello L:48 Auth:0 ID:49.2.3.4
DR:10.1.34.16 BDR:10.1.34.10
OSPF: recv from:10.1.251.18 to 224.0.0.5 Intf:e 2/1/21 LS-Upd L:136 Auth:0
ID:10.116.116.1 Cnt:3
OSPF: send to:224.0.0.5 Intf:ve 18 LS-Upd L:136 Auth:0 ID:10.10.10.77 Cnt:3
OSPF: send to:224.0.0.5 Intf:e 2/1/14 LS-Upd L:136 Auth:0 ID:10.10.10.77 Cnt:3
OSPF: send to:224.0.0.5 Intf:e 4/1/12 LS-Upd L:136 Auth:0 ID:10.10.10.77 Cnt:3
OSPF: send to:224.0.0.5 Intf:ve 34 LS-Upd L:136 Auth:0 ID:10.10.10.77 Cnt:3
OSPF: send to:224.0.0.5 Intf:ve 35 LS-Upd L:136 Auth:0 ID:10.10.10.77 Cnt:3
OSPF: recv from:10.1.251.6 to 224.0.0.5 Intf:ve 511 LS-Upd L:136 Auth:0
ID:10.116.116.1 Cnt:3
OSPF: send to:10.1.251.6 Intf:ve 511 LS-Ack L:84 Auth:0 ID:10.10.10.77
OSPF: recv from:10.1.91.18 to 224.0.0.5 Intf:ve 911 LS-Upd L:136 Auth:0
ID:10.116.116.1 Cnt:3
OSPF: send to:10.1.91.18 Intf:ve 911 LS-Ack L:84 Auth:0 ID:10.10.10.77
OSPF: recv from:10.1.14.1 to 224.0.0.5 Intf:e 2/1/14 LS-Upd L:136 Auth:0
ID:10.213.213.213 Cnt:3
OSPF: recv from:10.1.51.1 to 224.0.0.5 Intf:e 4/1/12 LS-Upd L:136 Auth:0
ID:10.213.213.213 Cnt:3
OSPF: recv from:10.1.18.2 to 224.0.0.5 Intf:ve 18 LS-Upd L:136 Auth:0
ID:10.213.213.213 Cnt:3
OSPF: recv from:10.1.14.1 to 224.0.0.5 Intf:e 2/1/14 LS-Ack L:84 Auth:0
ID:10.213.213.213
OSPF: recv from:10.1.18.2 to 224.0.0.5 Intf:ve 18 LS-Ack L:84 Auth:0
ID:10.213.213.213
OSPF: send to:224.0.0.5 Intf:ve 911 Hello L:48 Auth:0 ID:10.10.10.77
DR:10.1.91.16 BDR:10.1.91.18
OSPF: send to:224.0.0.5 Intf:loopback 1 Hello L:44 Auth:0 ID:10.10.10.77
DR:10.10.10.77 BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:loopback 2 Hello L:44 Auth:0 ID:10.10.10.77
DR:10.10.62.10 BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:loopback 3 Hello L:44 Auth:0 ID:10.10.10.77
DR:10.10.63.10 BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:loopback 4 Hello L:44 Auth:0 ID:10.10.10.77
DR:10.10.64.10 BDR:0.0.0.0
OSPF: send to:224.0.0.5 Intf:e 2/1/21 LS-Ack L:84 Auth:0 ID:10.10.10.77
OSPF: recv from:10.1.35.15 to 224.0.0.5 Intf:ve 35 LS-Ack L:84 Auth:0
ID:41.41.41.41
OSPF: recv from:10.1.34.10 to 224.0.0.5 Intf:ve 34 LS-Ack L:84 Auth:0 ID:49.2.3.4
OSPF: recv from:10.1.251.18 to 224.0.0.5 Intf:e 2/1/21 LS-Upd L:100 Auth:0
ID:10.116.116.1 Cnt:2
```

```
OSPF: send to:224.0.0.5 Intf:ve 18 LS-Upd L:100 Auth:0 ID:10.10.10.77 Cnt:2
OSPF: send to:224.0.0.5 Intf:e 2/1/14 LS-Upd L:100 Auth:0 ID:10.10.10.77 Cnt:2
OSPF: send to:224.0.0.5 Intf:e 4/1/12 LS-Upd L:100 Auth:0 ID:10.10.10.77 Cnt:2
OSPF: send to:224.0.0.5 Intf:ve 34 LS-Upd L:100 Auth:0 ID:10.10.10.77 Cnt:2
OSPF: send to:224.0.0.5 Intf:ve 35 LS-Upd L:100 Auth:0 ID:10.10.10.77 Cnt:2
OSPF: recv from:10.1.251.6 to 224.0.0.5 Intf:ve 511 LS-Upd L:100 Auth:0
ID:10.116.116.1 Cnt:2
OSPF: send to:10.1.251.6 Intf:ve 511 LS-Ack L:64 Auth:0 ID:10.10.10.77
OSPF: recv from:10.1.91.18 to 224.0.0.5 Intf:ve 911 LS-Upd L:100 Auth:0
ID:10.116.116.1 Cnt:2
OSPF: send to:10.1.91.18 Intf:ve 911 LS-Ack L:64 Auth:0 ID:10.10.10.77
OSPF: recv from:10.1.14.1 to 224.0.0.5 Intf:e 2/1/14 LS-Upd L:100 Auth:0
ID:10.213.213.213 Cnt:2
OSPF: recv from:10.1.51.1 to 224.0.0.5 Intf:e 4/1/12 LS-Upd L:100 Auth:0
ID:10.213.213.213 Cnt:2
OSPF: recv from:10.1.18.2 to 224.0.0.5 Intf:ve 18 LS-Upd L:100 Auth:0
ID:10.213.213.213 Cnt:2
OSPF: recv from:10.1.251.6 to 224.0.0.5 Intf:ve 511 LS-Upd L:748 Auth:0
ID:10.116.116.1 Cnt:20
OSPF: send to:224.0.0.5 Intf:ve 18 LS-Upd L:748 Auth:0 ID:10.10.10.77 Cnt:20
OSPF: send to:224.0.0.5 Intf:e 2/1/14 LS-Upd L:748 Auth:0 ID:10.10.10.77 Cnt:20
OSPF: send to:224.0.0.5 Intf:e 4/1/12 LS-Upd L:748 Auth:0 ID:10.10.10.77 Cnt:20
OSPF: send to:224.0.0.5 Intf:ve 34 LS-Upd L:748 Auth:0 ID:10.10.10.77 Cnt:20
OSPF: send to:224.0.0.5 Intf:ve 35 LS-Upd L:748 Auth:0 ID:10.10.10.77 Cnt:20
```

debug ip ospf retransmission

Generates internal information about Open Shortest Path First (OSPF) retransmission of link state advertisements (LSAs).

Syntax

debug ip ospf retransmission

no debug ip ospf retransmission

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip ospf retransmission
device(config)# clear ip routeOSPF: examine each neighbor and add advertisement
ls-id 10.3.13.0 to the retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.3.13.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.1.2.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.1.2.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.3.3.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.3.3.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.1.2.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.1.2.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.24.2.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.24.2.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.3.3.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.3.3.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.3.13.0 to the
retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.3.13.0 to the
retransmission list if necessary
device(config)# OSPF: examine each neighbor and add advertisement ls-id 10.24.2.0
to the retransmission list if necessary
OSPF: examine each neighbor and add advertisement ls-id 10.24.2.0 to the
retransmission list if necessary
```

debug ip ospf route

Generates information about Open Shortest Path First (OSPF) routes.

Syntax

debug ip ospf route *ip_address*

no debug ip ospf route *ip_address*

Parameters

ip_address

Specifies the IP address of the OSPF route.

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip ospf route 10.3.3.0
OSPF: debug ospf route 10.3.3.0
device(config-if-e1000-1/1/15)# debug ip ospf route 192.168.30.0
OSPF: debug ospf route 192.168.30.0
device(config-if-e1000-1/1/15)#OSPF: invalidate whole table - entry
192.168.30.0, state 0, path type 3
OSPF: calc ext route 192.168.30.0
OSPF: delete route 192.168.30.0 from rtm 0x367e7270, not_in_main 0
OSPF: calc ext route 192.168.30.0
OSPF: calc ext route 192.168.30.0
OSPF: calc ext route 192.168.30.0
OSPF: calc ext route 192.168.30.0
OSPF: ext route, net = 192.168.30.0, mask = 10.255.255.0 advrtr = 10.3.1.1, fwd =
0.0.0.0
OSPF: ext route changed 192.168.30.0, state 0
OSPF: ext route new 192.168.30.0, state 2, path type 3
OSPF: add route 192.168.30.0 to rtm, next hop 115.1.1.2, type 3, state 3,
not_in_main 1
OSPF: add to ospf route table, to valid 192.168.30.0, state 3, path type 3
OSPF: Modify route 192.168.30.0, type 3, state 3, not_in_main 0, next hop 10.1.1.2
OSPF: modify/modify route 192.168.30.0 (fwd 367e7333), type 3, state 3,
not_in_main 0, nhp 381c51c0
OSPF: validate route, new->valid 192.168.30.0, state 3, path type 3
```

debug ip ospf spf

Generates information about Open Shortest Path First (OSPF) activity including SPF runs and calculations.

Syntax

debug ip ospf spf

no debug ip ospf spf

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip ospf spf
OSPF: spf-short debugging is on
Disable neighbor
device(config-ospf-router)# Debug: Jan 1 02:38:55 OSPF: Schedule SPF(8001), in
prog 0, ospf build_routing_table 0 phase 1
Debug: Jan 1 02:38:55 OSPF: schedule spf, init spf delay 0, next hold 0 (ticks)
Debug: Jan 1 02:38:55 OSPF: Add to spf pending list, current time 96788,
scheduled 96788, next run 96788
Debug: Jan 1 02:38:55 OSPF: Schedule SPF(7001), in prog 0, ospf
build_routing_table 0 phase 1
Debug: Jan 1 02:38:55 OSPF: Schedule SPF(6002), in prog 0, ospf
build_routing_table 0 phase 1
Debug: Jan 1 02:38:55 OSPF: timer: give semaphore, start spf phase 1, time 96789,
scheduled 96788, run time 96788
Debug: Jan 1 02:38:55 OSPF: begin intra SPF run, chunk-id 0/-1 just_become_abr 0,
is_abr 0
Debug: Jan 1 02:38:55 OSPF: invalidate whole routing table, recal_just_become_abr
0, just_become_abr 0
Debug: Jan 1 02:38:55 OSPF: running SPF for area 0 area-18ce7068 nextarea 0
next-area-id -1
Debug: Jan 1 02:38:55 OSPF: completed SPF for all areas
Debug: Jan 1 02:38:55 OSPF: ROUTE CALC PHASE_INTRA end at 96789, is_abr 0
Debug: Jan 1 02:38:55 OSPF: ROUTE CALC PHASE_TRANSIT end at 96789
Debug: Jan 1 02:38:55 OSPF: ROUTE CALC PHASE_TYPE5 end at 96789
Debug: Jan 1 02:38:55 OSPF: ROUTE CALC PHASE_TYPE7 end at 96789
Debug: Jan 1 02:38:55 OSPF: summary phase, is_abr 0
Debug: Jan 1 02:38:55 OSPF: ROUTE CALC PHASE_SUMMARY end at 96789
Debug: Jan 1 02:38:55 OSPF: translation phase, is_abr 0
Debug: Jan 1 02:38:55 OSPF: ROUTE CALC PHASE_TRANSLATION end at 96789
Debug: Jan 1 02:38:55 OSPF: SPF_cleanup: current 96789, set next run time 96788,
current hold 0, next hold 0
Debug: Jan 1 02:38:55 OSPF: ROUTE CALC end at 96789, pending 0
```

debug ip ospf vrf

Generates debugging information about the Open Shortest Path First (OSPF) Virtual Routing and Forwarding (VRF) instance.

Syntax

debug ip ospf vrf

no debug ip ospf vrf

Modes

Privileged EXEC mode

Examples

```
device# debug ip ospf vrf
OSPF(one): send hello on area 0 interface 10.3.4.1
```

debug ip pim

Enables the Protocol Independent Multicast (PIM) debugging.

Syntax

debug ip pim

no debug ip pim

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command disables PIM debugging.

Examples

```
device# debug ip pim
PIM: pim debugging is on
```

debug ip pim add-del-oif

Displays information about the mcache activity.

Syntax

debug ip pim add-del-oif

no debug ip pim add-del-oif

Modes

Privileged EXEC mode

Usage Guidelines

The command will work with the **debug ip pim group** or **debug ip pim source** commands.

Examples

```
device# debug ip pim add-del-oif
        PIM:  add-del-oif debugging is on
device# Debug: Jan  2 00:18:27 PIMSM.VRF1: OIF FSM  1 for (*, 225.1.1.1) entry Reason(IgmpGrpJoin),
Action(Update), flagAction(1) CurrentState(0x4) NewState(0x4)
Debug: Jan  2 00:18:27 PIM.VRF1:  OIF Add v1,2/1/21 to (102.1.1.20 225.1.1.1) entry -
receivers mbrship type 1
```

debug ip pim bootstrap

Enables bootstrap debugging.

Syntax

debug ip pim bootstrap

no debug ip pim bootstrap

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command disables bootstrap debugging.

Examples

```
device# debug ip pim bootstrap
PIM: bootstrap debugging is on
device# PIM-BSR.VRF0: Prefer BSR 10.0.0.43(Pr 43) over current BSR 10.0.0.43(Pr
43)
PIM-BSR.VRF0: Intf tn4 - accept BSM from BSR 10.0.0.43(Pr 43), local state
CandBSR, curr BSR 10.0.0.43 (Pr 43)
```

debug ip pim clear

Clears all the Protocol Independent Multicast (PIM) debug settings.

Syntax

debug ip pim clear

no debug ip pim clear

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim clear
no debug ip pim is enabled
```

debug ip pim control-source

Monitors the control packet sent by the given router and displays debugging information.

Syntax

debug ip pim control-source *ip_address*

no debug ip pim control-source *ip_address*

Parameters

ip_address

Specifies the IP address of the control source.

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim control-source 10.10.10.129
device# IGMP: rcvd Query(t=17) V2 g=0.0.0.0 resp=100, pkt S=10.10.10.129 to
224.0.0.1, on v100 (phy 8/1/22), igmp_size=8
device# IGMP: rcvd Query(t=17) V2 g=0.0.0.0 resp=100, pkt S=10.10.10.129 to
224.0.0.1, on v100 (phy 8/1/22), igmp_size=8
```

debug ip pim event

Enables debugging of Protocol Independent Multicast (PIM) events.

Syntax

debug ip pim event

no debug ip pim event

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command disables PIM events debugging.

Examples

```
device# debug ip pim event
PIM: event debugging is on
device(config)# int ethernet 1/1/11
device(config-if-e1000-1/1/11)# disable
device(config-if-e1000-1/1/11)# Mcastv4 receive event 16
Mcastv4 receive event 16
Mcastv4 receive event 16
Mcastv4 receive event 16
Mcastv4 receive event 13
MC-EVT: Port tn4 state changed to DOWN
PIM-EVT.VRF0: Receive intf tn4 Dn state_notify
Mcastv4 receive event 6
device(config-if-e1000-1/1/11)# enable
Mcastv4 receive event 15
Mcastv4 receive event 15
Mcastv4 receive event 15
Mcastv4 receive event 15
```

debug ip pim group

Displays the Protocol Independent Multicast (PIM) related activities for the specified IP address of the PIM group.

Syntax

debug ip pim group *ip_address*

no debug ip pim group *ip_address*

Parameters

ip_address

Specifies the IP address of the PIM group.

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim group 227.1.1.1
device# 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 10.10.10.129
Begin sending Join/Prune msg to v100, rpf_nbr=10.10.10.129,
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=10.10.10.119 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 10.10.10.129
Begin sending Join/Prune msg to v100, rpf_nbr=10.10.10.129,
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=10.10.10.119 dest=224.0.0.13 pkt_size=42 to v100
Begin sending Join/Prune msg to v100, rpf_nbr=10.10.10.129,
group address: 227.1.1.1
Prune list: (10.10.10.129 227.1.1.1) wc=1 rpt=1 sparse=1
send_J/P_msg(), lcl_adr=10.10.10.119 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=10.10.10.129,
group address: 227.1.1.1
Prune list: (10.10.10.129 227.1.1.1) 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=10.10.10.119 dest=224.0.0.13 pkt_size=406 to v100
device# show ip pim group | i 227.1.1.1
device# 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=10.10.10.129,
group address: 227.1.1.1
Prune list: (10.10.10.129 227.1.1.1) 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=10.10.10.119 dest=224.0.0.13 pkt_size=406 to v100
device# 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=10.10.10.129,
group address: 227.1.1.1
Join list: (10.11.99.99 227.1.1.1) wc=0 rpt=0 sparse=1
Join list: (10.10.10.129 227.1.1.1) wc=1 rpt=1 sparse=1
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=42 to v100
device# Proc IGMP join g=227.1.1.1 from v300(2/1/17) 10.11.55.55
device# 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=10.10.10.129,
group address: 227.1.1.1
Join list: (10.10.10.129 227.1.1.1) 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=10.10.10.119 dest=224.0.0.13 pkt_size=406 to v100
reset age (10.11.99.99, 227.1.1.1)
device# show ip pim group | i 227.1.1.1
Index 7 Group 227.1.1.1
```

debug ip pim join-prune

Controls join prune processing and displays debugging information related to the join prune messages.

Syntax

debug ip pim join-prune

no debug ip pim join-prune

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim join-prune
PIM: join-prune debugging is on
device# PIM.VRF0: (10.0.0.178 232.0.0.6) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.6) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.7) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.7) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.8) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.8) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.9) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.9) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.10) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.10) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.11) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.11) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.12) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.12) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.13) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.13) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.14) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.14) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.15) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.15) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.16) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.16) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.17) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.17) RPFIf v76. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.178 232.0.0.18) RPFIf v75. RPFNbr -. Send Join/Prune
PIM.VRF0: (10.0.0.168 232.0.0.18) RPFIf v76. RPFNbr -. Send Join/Prune
```

debug ip pim level

Sets the Protocol Independent Multicast (PIM) level.

Syntax

debug ip pim level *decimal*

no debug ip pim level

Parameters

decimal

Specifies the number of the PIM level. The valid values are from 1 through 3.

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim level
DECIMAL 1-3 (most detailed)
device# debug ip pim level 1
debug level = 1
device# rcvd PIM_V2 Hello, from 10.10.10.129 to 224.0.0.13 Len 34 on v10
0 (8/1/22)
rcvd PIM_V2 Hello, from 10.10.10.129 to 224.0.0.13 Len 34 on v100 (8/1/22)
device# debug ip pim level 2
debug level = 2
device# 00:21:13 Send PIM_V2 Hello Src 10.10.10.119 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 10.10.10.129 to 224.0.0.13 Len 36 on v100 (8/1/22)
00:21:16 Send PIM_V2 Hello Src 10.10.10.119 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=10.10.10.129,
group address: 225.1.1.10
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=42 to v100
group address: 225.1.1.9
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=70 to v100
group address: 225.1.1.8
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=98 to v100
group address: 225.1.1.7
send_J/P_msg(), lcl_adr=00.10.10.119 dest=224.0.0.13 pkt_size=126 to v100
group address: 225.1.1.6
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=154 to v100
group address: 225.1.1.5
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=182 to v100
group address: 225.1.1.4
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=210 to v100
group address: 226.1.1.1
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=238 to v100
group address: 225.1.1.3
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=266 to v100
group address: 225.1.1.2
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=294 to v100
group address: 225.1.1.1
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=322 to v100
group address: 226.1.1.2
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=350 to v100
group address: 227.1.1.2
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=378 to v100
group address: 227.1.1.1
send_J/P_msg(), lcl_adr=10.10.10.119 dest=224.0.0.13 pkt_size=406 to v100
00:21:16 Send PIM_V2 Join/Prune Src 10.10.10.119 Dst 224.0.0.13 Len 406 on v100
PIMSM: END Periodic join-prune msgs

device# debug ip pim level 3
debug level = 3
device# rcvd PIM_V2 Hello, from 10.10.10.129 to 224.0.0.13 Len 34 on v10
0 (8/1/22)
Hello msg v100, source 10.10.10.129 group 224.0.0.13
rcvd PIM_V2 Hello, from 10.10.10.129 to 224.0.0.13 Len 34 on v100 (8/1/22)
Hello msg v100, source 10.10.10.129 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) 10.11.10.77
Proc IGMP join g=225.1.1.2 from v200(5/1/9) 10.11.10.77
Proc IGMP join g=225.1.1.3 from v200(5/1/9) 10.11.10.77
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) 10.11.10.77
Proc IGMP join g=225.1.1.5 from v200(5/1/9) 10.11.10.77
Proc IGMP join g=225.1.1.6 from v200(5/1/9) 10.11.10.77
Proc IGMP join g=225.1.1.7 from v200(5/1/9) 10.11.10.77
Proc IGMP join g=225.1.1.8 from v200(5/1/9) 10.11.10.77
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) 10.11.10.77
```

```
Proc IGMP join g=225.1.1.10 from v200(5/1/9) 10.11.10.77
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 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 10.10.129 to 224.0.0.13 Len 36 on v100 (8/1/22)
00:22:16 Send PIM_V2 Hello Src 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=10.10.129,
group address: 225.1.1.10
Join list: (10.10.129 225.1.1.10) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.10) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=42 to v100
group address: 225.1.1.9
Join list: (10.10.129 225.1.1.9) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.9) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=70 to v100
group address: 225.1.1.8
Join list: (10.10.129 225.1.1.8) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.8) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=98 to v100
group address: 225.1.1.7
Join list: (10.10.129 225.1.1.7) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.7) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=126 to v100
group address: 225.1.1.6
Join list: (10.10.129 225.1.1.6) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.6) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=154 to v100
group address: 225.1.1.5
Join list: (10.10.129 225.1.1.5) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.5) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=182 to v100
group address: 225.1.1.4
Join list: (10.10.129 225.1.1.4) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.4) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=210 to v100
group address: 226.1.1.1
Join list: (10.10.129 226.1.1.1) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 226.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=238 to v100
group address: 225.1.1.3
Join list: (10.10.129 225.1.1.3) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.3) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=266 to v100
group address: 225.1.1.2
Join list: (10.10.129 225.1.1.2) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.2) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=294 to v100
group address: 225.1.1.1
Join list: (10.10.129 225.1.1.1) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 225.1.1.1) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=322 to v100
group address: 226.1.1.2
Join list: (10.10.129 226.1.1.2) wc=1 rpt=1 sparse=1
Join list: (10.11.10.101 226.1.1.2) wc=0 rpt=0 sparse=1
send_J/P_msg(), lcl_adr=10.10.119 dest=224.0.0.13 pkt_size=350 to v100
group address: 227.1.1.2
Join list: (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=10.10.119 dest=224.0.0.13 pkt_size=378 to v100
group address: 227.1.1.1
Join list: (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=10.10.119 dest=224.0.0.13 pkt_size=406 to v100
00:22:16 Send PIM_V2 Join/Prune Src
```

debug ip pim nbr-change

Controls the Protocol Independent Multicast (PIM) IPv4 neighbor changes.

Syntax

debug ip pim nbr-change *nbr_address*

no debug ip pim nbr-change *nbr_address*

Parameters

nbr_address

Specifies the IP address of the neighbor.

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim nbr-change 10.144.144.12
PIM: nbr-change debugging is on
device(config-if-e1000-1/1/11)# PIM-NBR.VRF0: Neighbor 10.144.144.12 on
interface tn4, 1/1/11 deleted on port-down
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.11) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.12) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.13) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.14) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.15) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.16) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.17) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.18) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.19) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.20) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.21) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.22) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.23) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.24) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.25) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.26) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.27) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.28) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.29) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.30) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.31) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.32) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.33) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.34) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.35) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.36) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.37) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.38) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.39) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.40) HW bits: 0 0
```

debug ip pim packet

Displays debugging information about the Protocol Independent Multicast (PIM) packets.

Syntax

debug ip pim packet *source_address group_address* [**rate**]

Parameters

source_address

Specifies the source address of the PIM packet.

group_address

Specifies the group address of the PIM packet.

rate

Specifies the hardware rate.

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim packet 10.0.0.178 232.0.0.25
debug packet S=10.0.0.178 G=232.0.0.25
device# VRF0 Flow Entry Delete (10.0.0.178 232.0.0.25) HW bits: 1 1
device# debug ip pim packet 10.0.0.178 232.0.0.25 10
debug packet S=10.0.0.178 G=232.0.0.25 rate 10
device# VRF0 Flow Entry Delete (10.0.0.178 232.0.0.25) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.178 232.0.0.25) HW bits: 0 0
```

debug ip pim physical-port ethernet

Displays information of the PIM physical ports that are connected.

Syntax

debug ip pim physical-port ethernet *stackid/slot/port*

no debug ip pim physical-port ethernet *stackid/slot/port*

Parameters

stackid/slot/port

Refers to the stack ID, slot number, and port number.

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim physical-port ethernet 2/1/5
device# IGMP: IGMP: rcvd Report-V3(t=34) #rec=1, pkt S=10.2.1.6 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=10.2.1.6 to 224.0.0.22, on v800 (phy 2/1/5), igmp_size=16
```

debug ip pim regproc

Controls register processing.

Syntax

debug ip pim regproc

no debug ip pim regproc

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip pim regproc
device(config-if-e1000-1/1/11)# debug ip pim regproc
PIM: regproc debugging is on
device(config-if-e1000-1/1/11)# enable
device(config-if-e1000-1/1/11)# PIMSM-REG.VRF0: (10.0.0.168 228.0.0.1) Sending
L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.2) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.3) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.4) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.5) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.6) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.7) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.8) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.9) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.10) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.11) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.12) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.13) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.14) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.15) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.16) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.17) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.18) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.19) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.20) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.21) Sending L2-Null Reg on iface v78
PIMSM-REG.VRF0: (10.0.0.168 228.0.0.22) Sending L2-Null Reg on iface v78
```

debug ip pim rp

Controls the Rendezvouz Point (RP) processing.

Syntax

debug ip pim rp

no debug ip pim rp

Modes

Privileged EXEC mode

Global Configuration mode

Examples

```
device# debug ip pim rp
PIM: rp debugging is on
device(config-if-e1000-1/1/11)# enable
device(config-if-e1000-1/1/11)# PIMv4-CRP.VRF0: Sending Candidate RP Msg (size
22)
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.11) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.12) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.13) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.14) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.15) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.16) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.17) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.18) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.19) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.20) HW bits: 0 0
VRF0 Flow Entry Delete (10.0.0.168 232.0.0.21) HW bits: 0 0
```

debug ip pim show

Displays the PIM debug settings. Do not use the show debug command for this purpose. The show debug command displays general debug information.

Syntax

debug ip pim show

no debug ip pim show

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim show
pim debug-enable-any = 1
debug ip pim level 2 is enabled
```

debug ip pim source

Monitors the content related to a specific PIM server. The ipaddr variable refers to the IP address of the PIM server source.

Syntax

debug ip pim source*ipaddress*

no debug ip pim source*ipaddress*

Modes

Privileged EXEC mode

Examples

```
device# ddebug ip pim source 10.11.10.101
device# join_prune_timer, (10.11.10.101 225.1.1.10) ->num=1, rpt=0,
am_rp_and_proxy=0, JOIN
join_prune_timer, (10.11.10.101 225.1.1.10) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.10) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 225.1.1.9) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 225.1.1.9) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.9) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 225.1.1.8) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 225.1.1.8) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.8) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 225.1.1.7) ->num=1, rpt=0, am_rp_and_proxy=0, J
OIN
join_prune_timer, (10.11.10.101 225.1.1.7) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.7) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 225.1.1.6) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 225.1.1.6) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.6) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 225.1.1.5) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 225.1.1.5) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.5) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 225.1.1.4) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 225.1.1.4) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.4) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 226.1.1.1) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 226.1.1.1) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 226.1.1.1) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 225.1.1.3) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 225.1.1.3) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.3) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 225.1.1.2) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 225.1.1.2) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.2) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 225.1.1.1) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 225.1.1.1) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 225.1.1.1) fail RPT PRUNE cond.
join_prune_timer, (10.11.10.101 226.1.1.2) ->num=1, rpt=0, am_rp_and_proxy=0,
JOIN
join_prune_timer, (10.11.10.101 226.1.1.2) ->num=1, rpt=0, spt=1, SRC=v100,
RP=v100
join_prune_timer, (10.11.10.101 226.1.1.2) fail RPT PRUNE cond.
Join list: (10.11.10.101 225.1.1.10) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 225.1.1.9) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 225.1.1.8) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 225.1.1.7) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 225.1.1.6) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 225.1.1.5) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 225.1.1.4) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 226.1.1.1) wc=0 rpt=0 sparse=1
```

```
Join list: (10.11.10.101 225.1.1.3) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 225.1.1.2) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 225.1.1.1) wc=0 rpt=0 sparse=1
Join list: (10.11.10.101 226.1.1.2) wc=0 rpt=0 sparse=1
```

debug ip pim vrf

Displays the PIM related debugging information for the specified VRF.

Syntax

debug ip pim vrf*vrf_name*

no debug ip pim vrf*vrf_name*

Modes

Privileged EXEC mode

Examples

```
device# debug ip pim vrf vrf1
Debug: Jan 1 21:46:55 PIM_CFG.VRF1: port v85, ena_mode Dis
Debug: Jan 1 21:46:59 PIM_CFG.VRF1: port v85, ena_mode Ena
Debug: Jan 1 21:48:14 PIM_CFG.VRF1: port v85, ena_mode Dis
Debug: Jan 1 21:48:17 PIM_CFG.VRF1: port v85, ena_mode Ena
```

debug ip pimsm-snoop

describes the debug commands used for troubleshooting issues related to the IPv4 Protocol Independent Multicast Sparse mode (PIM-SM) snoop configurations.

Syntax

debug ip pimsm-snoop [**add-del-oif** | **all** | **clear** | **control-source** | **error** | **fsm** | **group**| **join-prune**| **physical-port** | **show**| **source** | **stacktrace**|**timer**|**vlan**]

Parameters

add-del-oif
Displays debugs related to the addition and deletion of outbound interfaces (OIFs) in Mcache.

all
Enables all PIM-SM snoop related debugs.

clear
Clears all PIM-SM snoop related debug settings.

control-source
Displays PIM-SM snooping related debug information for the specified control source address

error
Monitors error messages related to PIM-SM snoopng.

fsm
Enables debugging of Finite State Machine (FSM) transactions.

group
Displays PIM-SM snooping information for a specific group.

join-prune
Monitors PIM-SM snoop join and prune messages.

physical-port
Displays information of PIM-SM physical ports that are connected.

show
Displays all PIM-SM snoop related debug settings..

source
Displays PIM-SM snooping related debug information for the specified server source address.

stacktrace
Displays debug messages accompanied by call stack dump.

timer
Enables PIM-SM snoop timer debugging.

vlan
Enables PIM-SM snoop debugging for a particular VLAN.

Modes

Privileged EXEC mode

Examples

```
device(debug ip pimsm-snoop source 10.27.27.5
device# pim_snoop join (10.27.27.5 228.228.0.1), from e1/1/12
pim_snoop join (10.27.27.5 228.228.0.2), from e1/1/12
pim_snoop join (10.27.27.5 228.228.0.3), from e1/1/12
PIM from 10.27.27.2, vlan 275, port 1/1/12: Src=10.27.27.5 with 0 JOIN with 0
PRUNE
pim_snoop prune 1/1/12 from (10.27.27.5, 228.228.0.1), pim_snoop prune
1/1/12 from (10.27.27.5, 228.228.0.2), pim_snoop prune 1/1/12 from
(10.27.27.5, 228.228.0.3), PIM from 10.27.27.2, vlan 275, port 1/1/12:
Src=10.27.27.5 with 0 JOIN with 3 PRUNE, 1st Grp=228.228.0.1
pim_snoop join (10.27.27.5 228.228.0.1), from e1/1/12
pim_snoop join (10.27.27.5 228.228.0.2), from e1/1/12
pim_snoop join (10.27.27.5 228.228.0.3), from e1/1/12
PIM from 10.27.27.2, vlan 275, port 1/1/12: Src=10.27.27.5 with 0 JOIN with 0
PRUNE
```

History

Release version	Command history
	This command was introduced.
	This command was modified to...

debug ip ssh

activates the SSH debugging.

Syntax

debug ip ssh

no debug ip ssh

Modes

Privileged EXEC mode

Examples

```
device#  debug ip ssh
SSH: debugging is on
device(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]
```

debug ip sync

Displays debugging information about IP synchronization and faults in synchronization.

Syntax

debug ip sync

no debug ip sync

Modes

Privileged EXEC mode

Examples

```
device#  debug ip sync
device(config-vif-11)# ND6 add sync: sent ip:2001:DB8::10 mac:none state:INCOMP
port:ve 12 vlan:12 isR:0 to all other units
ND6 add sync: sent ip:2001:DB8::10 mac:0000.0062.9f2d state:REACH port:e 3/3/1
vlan:12 isR:0 to all other units
ND6 add sync: sent ip:2001:DB8::10 mac:0000.0062.9f2d state:STALE port:e 3/3/1
vlan:12 isR:0 to all other units
```

debug ip source guard

Activates the IP source guard debugging.

Syntax

debug ip source guard

no debug ip source guard

Modes

Privileged EXEC mode

Examples

```
device#  debug ip source guard
SOURCE GUARD: debugging is on
device(config-vif-11)# IPSrcSec: Add ip addr 10.3.3.12 on port 5/1/2 vlan 14
```

debug ip tcp

Display debugging information about the Transmission Control Protocol (TCP) transactions.

Syntax

debug ip tcp

no debug ip tcp

Modes

Privileged EXEC mode

Examples

```
device# debug ip tcp 2001:DB8::192:111:101:25
TCP: ipv6 address 2001:DB8::192:111:101:25 debugging is on
Debug: Feb 11 10:46:57 TCP: sent packet (len=41) 2001:DB8::192:111:101:111:8197 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:18c2,seqn:11211247,ackn:835929143
Debug: Feb 11 10:46:57 TCP: sent packet (len=41) 2001:DB8::192:111:101:111:8197 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:1,hlen:5,chksum:14ac,seqn:11211268,ackn:835929143
Debug: Feb 11 10:46:57 TCP: rcvd packet (len=20) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8197
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:3bfa,seqn:835929143,ackn:11211268
Debug: Feb 11 10:46:57 TCP: rcvd packet (len=20) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8197
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:3bf9,seqn:835929143,ackn:11211290
Debug: Feb 11 10:46:57 TCP: rcvd packet (len=20) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8197
packet:
syn:0,ack:1,rst:0,fin:1,hlen:5,chksum:3bce,seqn:835929143,ackn:11211290
Debug: Feb 11 10:46:57 TCP: sent packet (len=20) 2001:DB8::192:111:101:111:8197 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:1bce,seqn:11211290,ackn:835929144
Debug: Feb 11 10:47:05 TCP: sent packet (len=24) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179
packet: syn:1,ack:0,rst:0,fin:0,hlen:6,chksum:26f,seqn:4002716695,ackn:0
Debug: Feb 11 10:47:05 TCP: rcvd packet (len=24) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8178
packet:
syn:1,ack:1,rst:0,fin:0,hlen:6,chksum:17a4,seqn:2607451983,ackn:4002716696
Debug: Feb 11 10:47:05 TCP: sent packet (len=20) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:ef48,seqn:4002716696,ackn:2607451984
Debug: Feb 11 10:47:05 TCP: sent packet (len=75) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:17de,seqn:4002716696,ackn:2607451984
Debug: Feb 11 10:47:05 TCP: rcvd packet (len=20) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8178
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:2f49,seqn:2607451984,ackn:4002716751
Debug: Feb 11 10:47:05 TCP: rcvd packet (len=57) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8178
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:fc84,seqn:2607451984,ackn:4002716751
Debug: Feb 11 10:47:05 TCP: sent packet (len=20) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:ef11,seqn:4002716751,ackn:2607452021
Debug: Feb 11 10:47:05 TCP: rcvd packet (len=39) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8178
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:2af6,seqn:2607452021,ackn:4002716751
Debug: Feb 11 10:47:05 TCP: sent packet (len=20) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:ef11,seqn:4002716751,ackn:2607452040
Debug: Feb 11 10:47:05 TCP: sent packet (len=39) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:eabe,seqn:4002716751,ackn:2607452040
Debug: Feb 11 10:47:05 TCP: rcvd packet (len=20) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8178
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:2f11,seqn:2607452040,ackn:4002716770
```

```
Debug: Feb 11 10:47:05 TCP: rcvd packet (len=108) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8178
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:aa71,seqn:2607452040,ackn:4002716770
Debug: Feb 11 10:47:05 TCP: sent packet (len=20) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:eec6,seqn:4002716770,ackn:2607452128
Debug: Feb 11 10:47:05 TCP: rcvd packet (len=39) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8178
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:2a8b,seqn:2607452128,ackn:4002716770
Debug: Feb 11 10:47:05 TCP: sent packet (len=20) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:eec6,seqn:4002716770,ackn:2607452147
Debug: Feb 11 10:47:05 TCP: rcvd packet (len=108) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8178
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:80c6,seqn:2607452147,ackn:4002716770
Debug: Feb 11 10:47:05 TCP: sent packet (len=20) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:eec6,seqn:4002716770,ackn:2607452235
Debug: Feb 11 10:47:06 TCP: rcvd packet (len=108) 2001:DB8::192:111:101:25:179 ->
2001:DB8::192:111:101:111:8178
packet:
syn:0,ack:1,rst:0,fin:0,hlen:5,chksum:cd4a,seqn:2607452235,ackn:4002716770
Debug: Feb 11 10:47:06 TCP: sent packet (len=20) 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:17
```

debug ip tcp driver

Activates the TCP driver events debugging.

Syntax

debug ip tcp driver

no debug ip tcp driver

Modes

Privileged EXEC mode

Examples

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

debug ip tcp memory

Activates the TCP memory debugging.

Syntax

debug ip tcp memory

no debug ip tcp memory

Modes

Privileged EXEC mode

Examples

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

debug ip tcp packet

Activates the TCP packets debugging.

Syntax

debug ip tcp packet

no debug ip tcp packet

Modes

Privileged EXEC mode

Examples

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

debug ip tcp sack

Activates the TCP Selective Acknowledgment (SACK) debugging.

Syntax

debug ip tcp sack

no debug ip tcp sack

Modes

Privileged EXEC mode

Examples

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

debug ip tcp transactions

Activates the TCP transactions debugging.

Syntax

debug ip tcp transactions

no debug ip tcp transactions

Modes

Privileged EXEC mode

Examples

```
device# debug ip tcp transactions
TCP: transactions debugging is on
TCP: transactions debugging is on
Debug: Feb 11 10:47:39 TCP: 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179: state change ESTABLISHED -> FIN-WAIT-1
Debug: Feb 11 10:47:39 TCP: sending FIN to 2001:DB8::192:111:101:25 port 179
Debug: Feb 11 10:47:39 TCP: FIN to 2001:DB8::192:111:101:111 port 8178 acked
Debug: Feb 11 10:47:39 TCP: 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179: state change FIN-WAIT-1 -> FIN-WAIT-2
Debug: Feb 11 10:47:39 TCP: 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179: state change FIN-WAIT-2 -> TIME-WAIT
Debug: Feb 11 10:47:39 TCP: FIN processed
Debug: Feb 11 10:47:39 TCP: 2001:DB8::192:111:101:111:8178 ->
2001:DB8::192:111:101:25:179: state change TIME-WAIT -> CLOSED
Debug: Feb 11 10:47:39 TCP: TCB 14440934 destroyed
Debug: Feb 11 10:47:58 TCP: 2001:DB8::192:111:101:111:8064 ->
2001:DB8::192:111:101:25:179: state change CLOSED -> SYN-SENT
Debug: Feb 11 10:47:58 TCP: connected to 2001:DB8::192:111:101:111 port 8064
advertising MSS 1436
Debug: Feb 11 10:47:58 TCP: connection to 10.146.1.17 port 179 received MSS 1436
MSS is 1436
Debug: Feb 11 10:47:58 TCP: 2001:DB8::192:111:101:111:8064 ->
2001:DB8::192:111:101:25:179: state change SYN-SENT -> ESTABLISHED
```

debug ip udp

Activates the UDP debugging.

Syntax

debug ip udp

no debug ip udp

Modes

Privileged EXEC mode

Examples

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

debug ip vrrp packet

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

Syntax

debug ip vrrp packet

no debug ip vrrp packet

Modes

Privileged EXEC mode

Examples

```
device#  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 events

Displays debugging information of VRRP events only within the device.

Syntax

debug ip vrrp events

no debug ip vrrp events

Modes

Privileged EXEC mode

Examples

```
device#  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 packet v4

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

Syntax

debug ip vrrp packet v4

no debug ip vrrp packet v4

Modes

Privileged EXEC mode

Examples

```
device#  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

Displays debugging information of VRRP or VRRP-E packets specific to IPv6 within the device.

Syntax

debug ip vrrp packet v6

no debug ip vrrp packet v6

Modes

Privileged EXEC mode

Examples

```
device#  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 vrid

Filters VRRP or VRRP-E debugging using a virtual router identifier (VRID).

Syntax

debug ip vrrp vrid *decimal*

no debug ip vrrp vrid

Parameters

decimal

Specifies the VRID.

Modes

Privileged EXEC mode

Examples

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

debug ip web

Activates the web debugging.

Syntax

debug ip web

no debug ip web

Modes

Privileged EXEC mode

Examples

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

debug ip web-ssl

Activates web Secured Socket Layer (SSL) debugging.

Syntax

debug ip web-ssl

no debug ip web-ssl

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command deactivates web SSL debugging.

Examples

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

debug ipsec all

Displays all debugging information related to IPsec operation.

Syntax

debug ipsec all

no debug ipsec all

Modes

Privileged EXEC mode

Examples

```
device# debug ipsec all
IPSec: all debugging is on
device(config-ospf6-router)# no area 0 auth ipsec spi 400 esp sha1
abcef12345678901234fedcba098765432109876IPSEC,SA: ipipsec_pfkeyv2_input() ::
receiving 'DELETE' command
IPSEC,SA: Removing SA: ESP in spi=0x190 dst=FE80::
IPSEC,Policy: Removing flow [input use 'prot=OSPF src=FE80::/10:0 dst=::/0:0' ->
SA: ESP in spi=0x190 dst=FE80::] : ok
IPSEC,SA: ipipsec_pfkeyv2_input() :: succeeded
```

debug ipsec esp

Enables debugging of Encapsulating Security Payload (ESP)

Syntax

debug ipsec esp

no debug ipsec esp

Modes

Privileged EXEC mode

Examples

```
device# debug ipsec esp
IPSec: esp debugging is on
device(config-ospf6-router)# Debug: Jan 1 02:03:27 IPSEC,ESP: decrypt ok, seq=0
(SA: ESP in spi=0x190 dst=FE80::)
Debug: Jan 1 02:03:27 IPSEC,ESP: decrypt ok, seq=0 (SA: ESP in spi=0x190
dst=FE80::)
Debug: Jan 1 02:03:36 IPSEC,ESP: decrypt ok, seq=0 (SA: ESP in spi=0x190
dst=FE80::)
Debug: Jan 1 02:03:36 IPSEC,ESP: decrypt ok, seq=0 (SA: ESP in spi=0x190
dst=FE80::)
Debug: Jan 1 02:03:45 IPSEC,ESP: decrypt ok, seq=0 (SA: ESP in spi=0x190
dst=FE80::)
Debug: Jan 1 02:03:45 IPSEC,ESP: decrypt ok, seq=0 (SA: ESP in spi=0x190
dst=FE80::)
```

debug ipsec in

Enables the display of debugging information related to inbound OSPFv3 packets with IPsec.

Syntax

debug ipsec in

no debug ipsec in

Modes

Privileged EXEC mode

Examples

```
device# debug ipsec in
IPSec: in debugging is on
device(config-ospf6-router)# Debug: Jan 1 02:04:15 IPSEC,IN: ESP spi=400 (pkt
'ESP FE80:: -> FE80::') payloadlength =64
Debug: Jan 1 02:04:15 IPSEC,IN: Incoming packet matches Policy : input use
'prot=OSPF src=FE80::/10:0 dst=::/0:0' -> SA: ESP in spi=0x190 dst=FE80::
Debug: Jan 1 02:04:15 IPSEC,IN: ESP spi=400 (pkt 'ESP FE80:: -> FE80::')
payloadlength =64
Debug: Jan 1 02:04:15 IPSEC,IN: Incoming packet matches Policy : input use
'prot=OSPF src=FE80::/10:0 dst=::/0:0' -> SA: ESP in spi=0x190 dst=FE80::
Debug: Jan 1 02:04:26 IPSEC,IN: ESP spi=400 (pkt 'ESP FE80:: -> FE80::')
payloadlength =64
Debug: Jan 1 02:04:26 IPSEC,IN: Incoming packet matches Policy : input use
'prot=OSPF src=FE80::/10:0 dst=::/0:0' -> SA: ESP in spi=0x190 dst=FE80::
Debug: Jan 1 02:04:26 IPSEC,IN: ESP spi=400 (pkt 'ESP FE80:: -> FE80::')
payloadlength =64
Debug: Jan 1 02:04:26 IPSEC,IN: Incoming packet matches Policy : input use
'prot=OSPF src=FE80::/10:0 dst=::/0:0' -> SA: ESP in spi=0x190 dst=FE80::
Debug: Jan 1 02:04:36 IPSEC,IN: ESP spi=400 (pkt 'ESP FE80:: -> FE80::')
payloadlength =64
Debug: Jan 1 02:04:36 IPSEC,IN: Incoming packet matches Policy : input use
'prot=OSPF src=FE80::/10:0 dst=::/0:0' -> SA: ESP in spi=0x190 dst=FE80::
Debug: Jan 1 02:04:36 IPSEC,IN: ESP spi=400 (pkt 'ESP FE80:: -> FE80::')
payloadlength =64
Debug: Jan 1 02:04:36 IPSEC,IN: Incoming packet matches Policy : input use
'prot=OSPF src=FE80::/10:0 dst=::/0:0' -> SA: ESP in spi=0x190 dst=FE80::
```

debug ipsec out

Enables the display of debugging information related to outbound OSPFv3 packets with IPsec.

Syntax

debug ipsec out

no debug ipsec out

Modes

Privileged EXEC mode

Examples

```
device# debug ipsec out
IPSec: out debugging is on
device(config-ospf6-router)# Debug: Jan 1 02:04:55 IPSEC,OUT: Matching Flow:
output use 'prot=OSPF src=FE80::/10:0 dst=::/0:0' -> SA: ESP out spi=0x190 dst=::
Debug: Jan 1 02:04:55 IPSEC,OUT: SA ESP out spi=0x190 dst=:: payloadlength =64
Debug: Jan 1 02:04:56 IPSEC,OUT: OSPF FE80:: -> FE80::, payloadlength =40
Debug: Jan 1 02:04:56 IPSEC,OUT: OSPF FE80:: -> FE80::, payloadlength =40
Debug: Jan 1 02:05:06 IPSEC,OUT: Matching Flow: output use 'prot=OSPF
src=FE80::/10:0 dst=::/0:0' -> SA: ESP out spi=0x190 dst=::
Debug: Jan 1 02:05:06 IPSEC,OUT: SA ESP out spi=0x190 dst=:: payloadlength =64
Debug: Jan 1 02:05:07 IPSEC,OUT: OSPF FE80:: -> FE80::, payloadlength =40
Debug: Jan 1 02:05:07 IPSEC,OUT: OSPF FE80:: -> FE80::, payloadlength =40
Debug: Jan 1 02:05:15 IPSEC,OUT: Matching Flow: output use 'prot=OSPF
src=FE80::/10:0 dst=::/0:0' -> SA: ESP out spi=0x190 dst=::
Debug: Jan 1 02:05:15 IPSEC,OUT: SA ESP out spi=0x190 dst=:: payloadlength =64
Debug: Jan 1 02:05:16 IPSEC,OUT: OSPF FE80:: -> FE80::, payloadlength =40
Debug: Jan 1 02:05:16 IPSEC,OUT: OSPF FE80:: -> FE80::, payloadlength =40
```

debug ipsec policy

Enables the display of debugging information for IPsec policy.

Syntax

debug ipsec policy

no debug ipsec policy

Modes

Privileged EXEC mode

Examples

```
device# debug ipsec policy
IPSec: policy debugging is on
device(config-ospf6-router)#no area 0 auth ipsec spi 400 esp sha1
abcef12345678901234fedcba098765432109876
Debug: Jan 1 01:57:05 IPSEC,Policy: Removing flow [input use 'prot=OSPF
src=FE80::/10:0 dst=::/0:0' -> SA: ESP in spi=0x190 dst=FE80::] : ok
device(config-ospf6-router)#area 0 auth ipsec spi 400 esp sha1
abcef12345678901234fedcba098765432109876
Debug: Jan 1 01:57:26 IPSEC,Policy: Creating flow [input use 'prot=OSPF
src=FE80::/10:0 dst=::/0:0' -> SA: ESP in spi=0x190 dst=FE80::] : ok
device(config-ospf6-router)#Debug: Jan 1 02:02:21 IPSEC,Policy: Creating flow
[output use 'prot=OSPF src=FE80::/10:0 dst=::/0:0' -> SA: ESP out spi=0x190
dst=::] : ok
```

debug ipv6

Enables the collection of information about IPv6 configurations for troubleshooting.

Syntax

debug ipv6*address cache icmp mld nd packet ra*

Parameters

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.

Modes

Privileged EXEC mode

debug ipv6 dhcp relay

Displays debug information related to Dynamic Host Configuration Protocol for IPv6 (DHCPv6) relay agent.

Syntax

debug ipv6 dhcp relay

no debug ipv6 dhcp relay

Modes

Privileged EXEC mode

Examples

The following output will be displayed when you enable the DHCPv6 relay agent on the Ethernet interface 8/2.

```
device# debug ipv6 dhcp relay
DHCP6:  relay debugging is on
device# Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a-
>fc00:b000:cade::2]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::a1]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::a2]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::a3]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::a4]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::a5]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::a6]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::a7]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::a8]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::a9]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::aa]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::ab]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::ac]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::ad]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::ae]
Debug: Dec  9 11:15:20 DHCP6: DHCP6 relay-forward message sent [fc00:b000:cade::a->fc00:b000:cade::af]
```

debug ipv6 dhcp snooping

Enables debugging of the DHCPv6 snooping activity.

Syntax

debug ipv6 dhcp snooping

no debug ipv6 dhcp snooping

Modes

Privileged EXEC mode

Global configuration mode

Usage Guidelines

The no form of the command disables debugging of the DHCPv6 snooping activity.

Examples

```
device# debug ipv6 dhcp snooping
device(config-vif-11)# DHCPv6: snooping mapped to outgoing port 2/1/24 vlan 14 VRF 1
DHCPv6: snooping on trusted port 3/1/23, VRF 1, 2001:DB8::b->0000.007d.7a3e
```

debug ipv6 mld

Displays the debugging information about the received and sent packets of the Multicast Listening Discovery (MLD).

Syntax

debug ipv6 mld

no debug ipv6 mld

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld
device# 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

Enabled with the MLD **debug ipv6 mcache-source** or **debug ipv6 mcache-group** commands at the same time.

Syntax

debug ipv6 mld add-del-oif

no debug ipv6 mld add-del-oif

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld show
debug ip6 mld mcache-source 50F5 is enabled
debug ip6 mld add-del-oif is enabled
device# 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)
device# 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
device# 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
device# Debug: 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
device# 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

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

Syntax

debug ipv6 mld add-del-oif all

no debug ipv6 mld add-del-oif all

Modes

Privileged EXEC mode

Examples

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

Displays the MLD stack trace.

Syntax

debug ipv6 mld add-del-oif stack

no debug ipv6 mld add-del-oif stack

Modes

Privileged EXEC mode

Examples

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

Clears all the MLD debug settings..

Syntax

debug ipv6 mld clear

no debug ipv6 mld clear

Modes

Privileged EXEC mode

Examples

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

debug ipv6 mld detail

Displays the details of the MLD messages.

Syntax

debug ipv6 mld detail

no debug ipv6 mld detail

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld detail
device# debug ipv6 mld show
debug ip6 mld is enabled
debug ip6 mld detail is enabled
device# Debug: Sep 19 16:25:34 MLD: rcvd Leave(ty=132) g=2001:DB8::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
2001:DB8::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=2001:DB8::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
2001:DB8::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=2001:DB8::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
2001:DB8::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=2001:DB8::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
2001:DB8::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=2001:DB8::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
2001:DB8::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
2001:DB8::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
2001:DB8::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
2001:DB8::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
2001:DB8::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
2001:DB8::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
2001:DB8::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
2001:DB8::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
2001:DB8::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
2001:DB8::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
2001:DB8::24:2400 to VL1000(ethe 7/1/21 ) rsp=1000 mld=24B, pkt=86B
```

debug ipv6 mld enable

Enables debugging of MLD configurations.

Syntax

debug ipv6 mld enable

no debug ipv6 mld enable

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command disables debugging of MLD configurations.

Examples

```
device# debug ipv6 mld enable
debug ipv6 mld is enabled
```

debug ipv6 mld error

Displays error information related to MLD.

Syntax

debug ipv6 mld error

no debug ipv6 mld error

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld error
ERR: Dropped because group address not valid 2001:DB8::1:ff00:2. .
MLD.VRF0.ERR: Rx packet is invalid. Dropping packet
ERR: Dropped because group address not valid 2001:DB8::1:ff00:2. .
MLD.VRF0.ERR: Rx packet is invalid. Dropping packet
error 0x1 0x0 : failed to add prefix 2001:DB8::/64 to hw
ERR: Dropped because group address not valid 2001:DB8::1:ff00:2. .
MLD.VRF0.ERR: Rx packet is invalid. Dropping packet
ERR: Dropped because group address not valid 2001:DB8::1:ff00:2. .
MLD.VRF0.ERR: Rx packet is invalid. Dropping packet
ERR: Dropped because group address not valid 2001:DB8::1:ff00:2. .
```

debug ipv6 mld group

Debugs the MLD group matching.

Syntax

debug ipv6 mld group *ipv6addr*

no debug ipv6 mld group *ipv6addr*

Parameters

ipv6addr

Specifies the address of the IPv6 route.

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld group .ff1e::4:5:1
device# debug ipv6 mld vrf br_vrf_1
device# debug ipv6 mld protocol report
device# debug ipv6 mld enable
device# Debug: Jan  2 00:22:01 MLD.VRF1.RCV: Type V1 Report Port 2/1/21,v1 Grp ff1e::4:5:1
Debug: Jan  2 00:22:06 MLD.VRF1.RCV: Type V1 Report Port 2/1/21,v1 Grp ff1e::4:5:1
Debug: Jan  2 00:22:08 MLD.VRF1.RCV: Type V1 Report Port 2/1/21,v1 Grp ff1e::4:5:1
device# Debug: Jan  2 00:22:16 MLD.VRF1.RCV: Type V1 Report Port 2/1/21,v1 Grp ff1e::4:5:1
```

debug ipv6 mld level

Displays the different levels of debugging output.

Syntax

debug ipv6 mld level*decimal*

no debug ipv6 mld level*decimal*

Parameters

decimal

Specifies the number of the MLD level from 1 through 3.

Modes

Privileged EXEC mode

Usage Guidelines

The output must be enabled in combination with the other MLD debug commands.

Examples

```
device# debug ipv6 mld level 1
MLD Debug level = 1
device# 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
device# 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
device# 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
device# debug ipv6 mld level 3
MLD Debug level = 3
device# 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

Displays a filter of only desired mcache group debugging output.

Syntax

debug ipv6 mld mcache-group*hex*

no debug ipv6 mld mcache-group*hex*

Parameters

hex

Specifies the hexadecimal value of the MLD mcache group.

Modes

Privileged EXEC mode

Usage Guidelines

The output must be enabled in combination with the other MLD debug commands.

Examples

```
device# debug ipv6 mld is enabled
debug ip6 mld mcache-group 2403 is enabled
debug ip6 mld level 3 is enabled
device# Debug: Sep 28 00:09:51 MLD: rcvd Report-V1(ty=131)
g=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::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=2001:DB8::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: 2001:DB8::25:2504, life = 260
Debug: Sep 28 00:10:28 forward to router fid 814
```

debug ipv6 mld phy-port ethernet

Matches the input of the physical port.

Syntax

debug ipv6 mld phy-port ethernet*stackid / slot / port*

no debug ipv6 mld phy-port ethernet*stackid / slot / port*

Parameters

stackid / slot / port

Specifies the stack ID, slot number, and port number of a specific Ethernet port.

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld phy-port ethernet 1/1/22
device# debug ipv6 mld show
debug ip6 mld physical_port 1/1/22 is enabled
device# MLD: rcvd Report-V1(ty=131) g=2001:DB8::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=2001:DB8::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=2001:DB8::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=2001:DB8::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=2001:DB8::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

Enables the activity of the physical port and primary port if trunking happened.

Syntax

debug ipv6 mld prime-port ethernet*stackid / slot / port*

no debug ipv6 mld prime-port ethernet*stackid / slot / port*

Parameters

stackid / slot / port

Specifies the stack ID, slot number, and port number of a specific Ethernet port.

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command disables the activity of the physical port and primary port.

Examples

```
device# debug ipv6 mld prime-port ethernet 1/1/21
device# debug ipv6 mld show
debug ip6 mld prime-port 1/1/21 is enabled
device# MLD: rcvd Leave(ty=132) g=2001:DB8::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 2001:DB8::24:2400 to
VL510(ethe 1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::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 2001:DB8::24:2401 to
VL510(ethe 1/1/21 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::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 2001:DB8::24:2402 to
VL510(ethe 1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::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 2001:DB8::24:2403 to
VL510(ethe 1/1/21 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::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 2001:DB8::24:2404 to
VL510(ethe 1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::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 2001:DB8::25:2500 to
VL510(ethe 1/1/21 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::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 2001:DB8::25:2501 to
VL510(ethe 1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::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 2001:DB8::25:2502 to
VL510(ethe 1/1/21 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::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 2001:DB8::25:2503 to
VL510(ethe 1/1/22 ) rsp=10000 mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::25:2504 resp=0, pkt
S=fe80::200:bff:fe82:50f5, on VL510 (phy 1/1/21), mld_size=24
```

debug ipv6 mld protocol

Displays debugging information about the IPv6 MLD queries and reports transmitted and received.

Syntax

debug ipv6 mld protocol [**query** | **report**]

no debug ipv6 mld protocol[**query** | **report**]

Parameters

query

Displays the IPv6 MLD query.

report

Displays the IPv6 MLD report.

Modes

Privileged EXEC mode

Examples

The following is the sample output from the **debug ipv6 mld protocol query** command.

```
device# debug ipv6 mld protocol query
device# debug ipv6 mld enable
device# MLD.VRF0: [ Port 6/1/17,v170 ] Sent General Query version 2 using src
fe80::768e:f8ff:fe34:3c80
MLD.VRF0: [ Port 4/1/22,v78 ] Sent General Query version 2 using src
fe80::768e:f8ff:fe34:3c80
MLD.VRF0: [ Port 6/1/22,v77 ] Sent General Query version 2 using src
fe80::768e:f8ff:fe34:3c80
MLD.VRF0: [ Port 1/1/15,v74 ] Sent General Query version 2 using src
fe80::768e:f8ff:fe34:3c80
```

The following is the truncated sample output from the **debug ipv6 mld protocol report** command.

```
device# debug ipv6 mld protocol report
device# debug ipv6 mld enable
device# MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::14
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::2
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::6
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::22
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::11
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::2f
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::9
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::25
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::24
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::1c
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::2c
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::28
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::26
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::31
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::5
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::1f
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::18
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::2d
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::1
MLD.VRF0.RCV: Type V1 Report Port 3/1/12,v73 Grp ff84::2a
```

debug ipv6 mld rx

Displays the IPv6 MLD packets received.

Syntax

debug ipv6 mld rx

no debug ipv6 mld rx

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld rx
MLD.VRF1.RCV: Received Query on Port 1/1/3*1/1/14,v25 Grp *
MLD.QRY: [ Port 1/1/3*1/1/14,v25. Grp :: Src fe80::207:11ff:fe11:1111].
Processing version 2 query
MLD.VRF3.RCV: Received Query on Port 1/1/3*1/1/14,v26 Grp *
MLD.QRY: [ Port 1/1/3*1/1/14,v26. Grp :: Src fe80::207:11ff:fe11:1111].
Processing version 2 query
```

debug ipv6 mld show

Displays the IPv6 MLD debug settings.

Syntax

debug ipv6 mld show

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld show
debug ipv6 mld error
debug ipv6 mld vrf 3
```

debug ipv6 mld source

Displays the MLD related debug information for the specified source address.

Syntax

debug ipv6 mld source*ipaddr*

no debug ipv6 mld source*ipaddr*

Parameters

ipaddr

Specifies the IP address.

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld rx
device# debug ipv6 mld protocol report
device# debug ipv6 mld source 2001:DB8::15
=====================
MLD.VRF4.RCV: Type V2 Report Port 1/1/12,v107 Grp 2001:DB8:ff3c::7:0
MLD.RCV: Type V2 Rept Port 1/1/12,v107 #Grps 1, action BLK_OLD. #Srcs 1
MLD.VRF4.RCV: Type V2 Report Port 1/1/12,v107 Grp 2001:DB8:ff3c::7:0
MLD.RCV: Type V2 Rept Port 1/1/12,v107 #Grps 1, action BLK_OLD. #Srcs 1
MLD.VRF4.RCV: Type V2 Report Port 1/1/12,v107 Grp 2001:DB8:ff3c::7:0
MLD.RCV: Type V2 Rept Port 1/1/12,v107 #Grps 1, action ALW_NEW. #Srcs 1
MLD.VRF4.RCV: Type V2 Report Port 1/1/12,v107 Grp 2001:DB8:ff3c::7:0
MLD.RCV: Type V2 Rept Port 1/1/12,v107 #Grps 1, action ALW_NEW. #Srcs 1
MLD.VRF4.RCV: Type V2 Report Port 1/1/12,v107 Grp 2001:DB8:ff3c::7:0
```

debug ipv6 mld timer

Monitors the MLD timer activity.

Syntax

debug ipv6 mld timer

no debug ipv6 mld timer

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld timer
Monitor MLD timers activity
```

debug ipv6 mld tx

Displays the IPv6 MLD packets transmitted..

Syntax

debug ipv6 mld tx

no debug ipv6 mld tx

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld tx
device# debug ipv6 mld protocol query
MLD.VRF1: [ Port 1/1/12,v105 ] Sent General Query version 2 using src
fe80::768e:f8ff:fe0e:68c0
MLD.VRF3: [ Port 1/1/12,v103 ] Sent General Query version 2 using src
fe80::768e:f8ff:fe0e:68c0
MLD.VRF4: [ Port 1/1/12,v107 ] Sent General Query version 2 using src
fe80::768e:f8ff:fe0e:68c0
```

debug ipv6 mld vlan

Monitors the MLD VLAN activity.

Syntax

debug ipv6 mld vlan*decimal*

no debug ipv6 mld vlan*decimal*

Parameters

decimal

Specifies the VLAN number.

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld vlan 2
monitor vlan 2
```

debug ipv6 mld vrf

Displays MLD related debug information for the specified VRF.

Syntax

debug ipv6 mld vrf *vrf_name*

no debug ipv6 mld vrf *vrf_name*

Parameters

vrf_name

Specifies the VRF name.

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 mld vrf vrf1
MLD.VRF1.EVT: - Started FSM timer for 16 seconds
MLD.VRF1.EVT: Rx packet is valid. Processing packet
MLD.VRF1.EVT: - Started FSM timer for 16 seconds
MLD.VRF1: [ Port 3/1/11,3/1/11 ] General Query Timer expired. Sending Query
version 2
```

debug ipv6 nd

Enables Neighbor Discovery (ND) debug logs and displays the debugging information about dropped Neighbor Solicitation (NS) and Neighbor Advertisement (NA) packets.

Syntax

debug ipv6 nd

no debug ipv6 nd

Modes

Privileged EXEC mode

Global configuration mode

Usage Guidelines

Examples

```
device(config)#debug ipv6 nd
ipv6: nd debugging is on
device(config)#ND Inspect: src-ip, src-mac mismatch, packet dropped rx-sip
2001:DB8::1 rx-smac 0000.0000.0066 inspect-ip 2001:DB8::1 inspect-mac
0000.0000.0088 vlan_id 2 vrf_id 0
device(config)#show ipv6 neighbor inspection statistics
Total number of ND Solicit received 4
Total number of ND Adevert received 4
Total number of ND dropped 6
```

debug ipv6 ospf ipsec

Displays information about IPsec events. This command can show if IPsec is actually providing its services to IPv6 OSPFv3. The following output shows success in the attempts to provide various IPsec services to OSPFv3.

Syntax

debug ipv6 ospf ipsec

no debug ipv6 ospf ipsec

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 ospf ipsec
OSPFv3: ipsec debugging is on
device(config-ospf6-router)# no area 0 auth ipsec spi 400 esp sha1
abcef12345678901234fedcba098765432109876Debug: Jan 1 02:22:09 OSPFv3:
ITC_AUTHENTICATION_CONFIG message received
Debug: Jan 1 02:22:09 OSPFv3: Auth timer started
Debug: Jan 1 02:22:09 OSPFv3: Key Rollover, for area 0.0.0.0, state change
NOT_ACTIVE->STARTED
Debug: Jan 1 02:22:09 OSPFv3: Key Rollover, for v9, state change
NOT_ACTIVE->STARTED
```

debug ipv6 ospf ism

Displays debug information about the interface state machine (ISM).

Syntax

debug ipv6 ospf ism

no debug ipv6 ospf ism

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 ospf ism
         OSPFv3:  ism debugging is on
Debug: Dec  9 10:47:25 OSPFv3: ISM[14368]: InterfaceDown
Debug: Dec  9 10:47:25 OSPFv3: ISM[14368]: Status change BDR -> Down (Configured)
Debug: Dec  9 10:47:25 OSPFv3: ISM[14368]: {dr:7.0.0.3,bdr:1.0.0.1} -> {dr:0.0.0.0,bdr:0.0.0.0}
Debug: Dec  9 10:47:40 OSPFv3: ISM[14368]: InterfaceUp
Debug: Dec  9 10:47:40 OSPFv3: ISM[14368]: Status change Down -> Waiting (Priority > 0)
Debug: Dec  9 10:47:40 OSPFv3: ISM[14368]: Start Wait_Timer at 639966, 619070
Debug: Dec  9 10:47:44 OSPFv3: ISM[14368]: BackupSeen
Debug: Dec  9 10:47:44 OSPFv3: ISM[14368]: Status change Waiting -> DROther (BackupSeen:DR Election)
Debug: Dec  9 10:47:44 OSPFv3: ISM[14368]: {dr:0.0.0.0,bdr:0.0.0.0} -> {dr:7.0.0.3,bdr:1.0.0.11}
Debug: Dec  9 10:47:44 OSPFv3: ISM[14368]: NeighborChange
Debug: Dec  9 10:47:44 OSPFv3: ISM[14368]: Status change DROther -> DROther (NeighborChange:DR Election)
Debug: Dec  9 10:47:44 OSPFv3: ISM[14368]: NeighborChange
Debug: Dec  9 10:47:44 OSPFv3: ISM[14368]: Status change DROther -> DROther (NeighborChange:DR Election)
```

debug ipv6 ospf ism-events

Displays debug information about ISM events.

Syntax

debug ipv6 ospf ism-events

no debug ipv6 ospf ism-events

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf ism-events
         OSPFv3:  ism-events debugging is on
Debug: Dec  9 10:53:04 OSPFv3: ISM[14368]: InterfaceDown
Debug: Dec  9 10:53:15 OSPFv3: interface (14367) cost change to 9 due to speed change
Debug: Dec  9 10:53:15 OSPFv3: ISM[14368]: InterfaceUp
Debug: Dec  9 10:53:15 OSPFv3: ISM[14368]: Start Wait_Timer at 643319, 622306
Debug: Dec  9 10:53:22 OSPFv3: ISM[14368]: BackupSeen
```

debug ipv6 ospf ism-status

Displays debug information about the status of ISM.

Syntax

debug ipv6 ospf ism-status

no debug ipv6 ospf ism-status

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf ism-status
         OSPFv3:  ism-status debugging is on
Debug: Dec  9 10:55:38 OSPFv3: ISM[14368]: Status change DROther -> Down (Configured)
Debug: Dec  9 10:55:58 OSPFv3: ISM[14368]: Status change Down -> Waiting (Priority > 0)
Debug: Dec  9 10:56:01 OSPFv3: ISM[14368]: Status change Waiting -> DROther (BackupSeen:DR Election)
Debug: Dec  9 10:56:01 OSPFv3: ISM[14368]: {dr:0.0.0.0,bdr:0.0.0.0} -> {dr:1.0.0.11,bdr:1.0.0.11}
Debug: Dec  9 10:56:02 OSPFv3: ISM[14368]: Status change DROther -> DROther (NeighborChange:DR Election)
Debug: Dec  9 10:56:02 OSPFv3: ISM[14368]: {dr:1.0.0.11,bdr:1.0.0.11} -> {dr:7.0.0.3,bdr:1.0.0.11}
Debug: Dec  9 10:56:07 OSPFv3: ISM[14368]: Status change DROther -> DROther (NeighborChange:DR Election)
```

debug ipv6 ospf lsa

Displays LSAs.

Syntax

debug ipv6 ospf lsa

no debug ipv6 ospf lsa

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf lsa
OSPFv3: lsa debugging is on
device(config-vif-9)#Debug: Jan 1 17:05:01 OSPFv3: LSA: Update Router-LSA for
area 0.0.0.0
Debug: Jan 1 17:05:01 OSPFv3: LSA: Create LSA Type :Router Id: 0 Advrouter:
10.4.4.8
Debug: Jan 1 17:05:01 OSPFv3: LSA: Type: 8193 ID: 0 AdvRouter: 10.4.4.8, Supress
Updating
Debug: Jan 1 17:05:01 OSPFv3: LSA: Delete LSA Type :Router Id: 0.0.0.0 Advrouter:
10.4.4.8
Debug: Jan 1 17:05:01 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Checking
Interface 644
Debug: Jan 1 17:05:01 OSPFv3: LSA Update Intra-Area-Prefix(Stub): include
5001::/64
Debug: Jan 1 17:05:01 OSPFv3: LSA: Create LSA Type :IntraPrefix Id: 0 Advrouter:
10.4.4.8
Debug: Jan 1 17:05:01 OSPFv3: LSA: Type: 8201 ID: 0 AdvRouter: 10.4.4.8, Supress
Updating
Debug: Jan 1 17:05:01 OSPFv3: LSA: Delete LSA Type :IntraPrefix Id: 0.0.0.0
Advrouter: 10.4.4.8
Debug: Jan 1 17:05:01 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Area 0.0.0.0
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Header Type :Router Id: 0
Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[10.2.2.2]: request Type =8193 ADvRtr =10.2.2.2
ID=0
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Header Type :IntraPrefix Id: 0
Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[10.2.2.2]: request Type =8201 ADvRtr =10.2.2.2
ID=0
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Header Type :Link Id: 2052
Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[10.2.2.2]: request Type =8 ADvRtr =10.2.2.2
ID=2052
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :Router Id: 0 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA HEADER Type :Router Id: 0.0.0.0
Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[418103392]: delayed ack
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :IntraPrefix Id: 0 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA HEADER Type :IntraPrefix Id:
0.0.0.0 Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[418103392]: delayed ack
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :Link Id: 2052 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA HEADER Type :Link Id: 10.0.8.4
Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit):Interface 644
is Stub
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Checking
Interface 644
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Stub): include
5001::/64
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :IntraPrefix Id: 0 Advrouter:
10.4.4.8
Debug: Jan 1 17:05:02 OSPFv3: LSA: Type: 8201 ID: 0 AdvRouter: 10.4.4.8, Supress
Updating
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA Type :IntraPrefix Id: 0.0.0.0
Advrouter: 10.4.4.8
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Area 0.0.0.0
Debug: Jan 1 17:05:02 OSPFv3: LSA[418103392]: delayed ack
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :Router Id: 0 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA: Turnover type:Router Lsa Id:0.0.0.0
AdvRouter:10.2.2.2: Debug: Jan 1 17:05:02 OSPFv3: contents changed
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA Type :Router Id: 0.0.0.0 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[418103392]: delayed ack
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :Router Id: 0 Advrouter:
```

```
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[10.2.2.2]: direct ack
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA Type :Router Id: 0.0.0.0 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :IntraPrefix Id: 0 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA: Turnover type:IntraPrefix Lsa Id:0.0.0.0
AdvRouter:10.2.2.2: Debug: Jan 1 17:05:02 OSPFv3: contents changed
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA Type :IntraPrefix Id: 0.0.0.0
Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[418103392]: delayed ack
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :IntraPrefix Id: 0 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[10.2.2.2]: direct ack
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA Type :IntraPrefix Id: 0.0.0.0
Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :IntraPrefix Id: 0 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[10.2.2.2]: direct ack
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA Type :IntraPrefix Id: 0.0.0.0
Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :IntraPrefix Id: 0 Advrouter:
10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA[10.2.2.2]: direct ack
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA Type :IntraPrefix Id: 0.0.0.0
Advrouter: 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA: Update Router-LSA for area 0.0.0.0
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :Router Id: 0 Advrouter:
10.4.4.8
Debug: Jan 1 17:05:02 OSPFv3: LSA: Turnover type:Router Lsa Id:0.0.0.0
AdvRouter:10.4.4.8: Debug: Jan 1 17:05:02 OSPFv3: contents changed
Debug: Jan 1 17:05:02 OSPFv3: LSA: Delete LSA Type :Router Id: 0.0.0.0 Advrouter:
10.4.4.8
Debug: Jan 1 17:05:02 OSPFv3: LSA: schedule flooding 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Network: Interface 644
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :Network Id: 644 Advrouter:
10.4.4.8
Debug: Jan 1 17:05:02 OSPFv3: LSA: schedule flooding 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit): Interface
644
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit):Checking Type
:Link Id 10.0.2.132: Adv Routr : 10.4.4.8
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit): 1
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit): Prefix
5001::
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit): including
5001::
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit):Checking Type
:Link Id 10.0.8.4: Adv Routr : 10.2.2.2
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit): 1
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit): Prefix
5001::
Debug: Jan 1 17:05:02 OSPFv3: LSA Update Intra-Area-Prefix(Transit): 5001:: is
Duplicate
Debug: Jan 1 17:05:02 OSPFv3: LSA: Create LSA Type :IntraPrefix Id: 19320
Advrouter: 10.4.4.8
Debug: Jan 1 17:05:02 OSPFv3: LSA: schedule flooding 10.2.2.2
```

debug ipv6 ospf lsa-flooding

Displays debug information about LSA flooding activity.

Syntax

debug ipv6 ospf lsa-flooding

no debug ipv6 ospf lsa-flooding

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf lsa-flooding
OSPFv3: lsa-flooding debugging is on
device(config)# ipv6 router ospf
device(config-ospf6-router)# redistribute connected
device(config-ospf6-router)# redistribute connected Debug: Jan 1 17:17:49
OSPFv3: LSA: schedule flooding 10.2.2.2
Debug: Jan 1 17:17:49 OSPFv3: LSA: schedule flooding 10.2.2.2
Debug: Jan 1 17:17:49 OSPFv3: LSA: schedule flooding 10.2.2.2
Debug: Jan 1 17:17:49 OSPFv3: LSA: schedule flooding 10.2.2.2
Debug: Jan 1 17:17:49 OSPFv3: LSA: schedule flooding 10.2.2.2
```

debug ipv6 ospf lsa-generation

Displays debug information about LSA generation.

Syntax

debug ipv6 ospf lsa-generation

no debug ipv6 ospf lsa-generation

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf lsa-generation
OSPFv3: lsa-generation debugging is on
device(config-ospf6-router)# Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type
:Router Id: 0 Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :Router Id: 0.0.0.0 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 1 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.1
Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 2 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.2
Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 3 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.3
Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 4 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.4
Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 5 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.5
Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :Router Id: 0 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :Router Id: 0.0.0.0 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 1 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.1
Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 2 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.2
Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 3 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.3
Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 4 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.4
Advrouter: 10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Create LSA Type :ASExternal Id: 5 Advrouter:
10.4.4.8
Debug: Jan 1 18:53:55 OSPFv3: LSA: Delete LSA Type :ASExternal Id: 10.0.0.5 Advrouter: 10.4.4.8
```

debug ipv6 ospf lsa-install

Displays debug information about installed LSAs.

Syntax

debug ipv6 ospf lsa-install

no debug ipv6 ospf lsa-install

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf lsa-install
OSPFv3: lsa-install debugging is on
device(config-ospf6-router)# Debug: Jan 1 19:03:16 OSPFv3: LSA: Turnover
type:Router Lsa Id:0.0.0.0 AdvRouter:10.4.4.8: Debug: Jan 1 19:03:16 OSPFv3:
contents changed
Debug: Jan 1 19:03:59 OSPFv3: LSA: Turnover type:Router Lsa Id:0.0.0.0
AdvRouter:10.4.4.8: Debug: Jan 1 19:03:59 OSPFv3: contents changed
```

debug ipv6 ospf lsa-inter-area

Displays debug information about inter-area LSAs.

Syntax

debug ipv6 ospf lsa-inter-area

no debug ipv6 ospf lsa-inter-area

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf lsa-inter-area
OSPFv3: lsa-inter-area debugging is on
device(config-vif-7)# disable
device(config-vif-7)# enable
device(config-vif-7)# OSPFv3: Inter Area LSA not generated, path type = External
OSPFv3: Inter Area LSA not generated, path type = External
OSPFv3: Installing in LSDB Inter Area Prefix LSA for area 0.0.0.0 and prefix
2001:DB8::/64
OSPFv3: Inter Area LSA not generated, route is in same area.
OSPFv3: Inter Area LSA not generated, path type = External
OSPFv3: Inter Area LSA not generated, path type = External
OSPFv3: Inter Area LSA not generated, route is in same area.
OSPFv3: Installing in LSDB Inter Area Prefix LSA for area 10.0.0.1 and prefix
2001:DB8::/64
OSPFv3: Inter Area LSA not generated, path type = External
OSPFv3: Inter Area LSA not generated, path type = External
OSPFv3: Inter Area LSA not generated, path type = External
OSPFv3: Inter Area LSA not generated, path type = External
OSPFv3: Inter Area LSA not generated, route is in same area.
shOSPFv3: Inter Area LSA not generated, route is in same area.
```

debug ipv6 ospf lsa-refresh

Displays LSA refresh information.

Syntax

debug ipv6 ospf lsa-refresh

no debug ipv6 ospf lsa-refresh

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf lsa-refresh
OSPFv3: lsa-refresh debugging is on
device(config-ospf6-router)# Debug: Jan 1 19:01:39 OSPFv3: LSA: Update
Router-LSA for area 0.0.0.0
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Checking
Interface 644
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Interface 644
is down
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Intra-Area-Prefix(Stub): No prefix to
advertise for Area 0.0.0.0
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Area 0.0.0.0
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Network: Interface 644 is not DR
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Intra-Area-Prefix(Transit):Interface 644
is not DR
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Checking
Interface 644
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Interface 644
is down
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Intra-Area-Prefix(Stub): No prefix to
advertise for Area 0.0.0.0
Debug: Jan 1 19:01:39 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Area 0.0.0.0
Debug: Jan 1 19:01:44 OSPFv3: LSA: Update Router-LSA for area 0.0.0.0
Debug: Jan 1 19:02:42 OSPFv3: LSA: Update Router-LSA for area 0.0.0.0
Debug: Jan 1 19:02:42 OSPFv3: LSA: LSA Update AS-External: ID 10.0.0.6
Debug: Jan 1 19:02:42 OSPFv3: LSA: LSA Update AS-External: ID 10.0.0.7debug ip
Debug: Jan 1 19:02:42 OSPFv3: LSA: LSA Update AS-External: ID 10.0.0.8
Debug: Jan 1 19:02:42 OSPFv3: LSA: LSA Update AS-External: ID 10.0.0.9
Debug: Jan 1 19:02:42 OSPFv3: LSA: LSA Update AS-External: ID 10.0.0.10
Debug: Jan 1 19:02:42 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Checking
Interface 644
Debug: Jan 1 19:02:42 OSPFv3: LSA Update Intra-Area-Prefix(Stub): include
2001:DB8::/64
Debug: Jan 1 19:02:42 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Area 0.0.0.0
Debug: Jan 1 19:02:42 OSPFv3: LSA Update Link: Interface 644
Debug: Jan 1 19:02:46 OSPFv3: LSA Update Link: Interface 644
Debug: Jan 1 19:02:46 OSPFv3: LSA: Type: 8 ID: 644 AdvRouter: 10.4.4.8, Supress
Updating
Debug: Jan 1 19:02:46 OSPFv3: LSA Update Link: Interface 644
Debug: Jan 1 19:02:46 OSPFv3: LSA: Type: 8 ID: 644 AdvRouter: 10.4.4.8, Supress
Updating
Debug: Jan 1 19:02:47 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Checking
Interface 644
Debug: Jan 1 19:02:47 OSPFv3: LSA Update Intra-Area-Prefix(Stub): include
2001:DB8::/64
Debug: Jan 1 19:02:47 OSPFv3: LSA: Type: 8201 ID: 0 AdvRouter: 10.4.4.8, Supress
Updating
Debug: Jan 1 19:02:47 OSPFv3: LSA Update Intra-Area-Prefix(Stub): Area 0.0.0.0
Debug: Jan 1 19:02:47 OSPFv3: LSA: Update Router-LSA for area 0.0.0.0
Debug: Jan 1 19:02:47 OSPFv3: LSA: Type: 8193 ID: 0 AdvRouter: 10.4.4.8, Supress
```

debug ipv6 ospf nsm

Displays debug information about the neighbor state machine (NSM).

Syntax

debug ipv6 ospf nsm

no debug ipv6 ospf nsm

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf nsm
         OSPFv3:  nsm debugging is on
Debug: Dec  9 11:08:20 OSPFv3: NSM[14689]: SendHello at 652364
Debug: Dec  9 11:08:21 OSPFv3: NSM[2.0.0.1, 14341]: HelloReceived at 652379, 631072
Debug: Dec  9 11:08:22 OSPFv3: NSM[14366]: SendHello at 652386
Debug: Dec  9 11:08:24 OSPFv3: NSM[14364]: SendHello at 652403
Debug: Dec  9 11:08:25 OSPFv3: NSM[14688]: SendHello at 652415
Debug: Dec  9 11:08:25 OSPFv3: NSM[14337]: SendHello at 652416
Debug: Dec  9 11:08:26 OSPFv3: NSM[14369]: SendHello at 652430
Debug: Dec  9 11:08:27 OSPFv3: NSM[1.0.0.13, 14364]: HelloReceived at 652434, 631127
Debug: Dec  9 11:08:27 OSPFv3: NSM[1.0.0.11, 14368]: HelloReceived at 652437, 631130
Debug: Dec  9 11:08:27 OSPFv3: NSM[1.0.0.11]: Status change [Down]->[Init](HelloReceived)
Debug: Dec  9 11:08:27 OSPFv3: NSM[1.0.0.11]: 2Way-Received
Debug: Dec  9 11:08:27 OSPFv3: NSM[1.0.0.11]: Status change [Init]->[2-way](No Need Adjacency)
Debug: Dec  9 11:08:27 OSPFv3: NSM[1.0.0.11]: AdjOK?
Debug: Dec  9 11:08:27 OSPFv3: NSM[1.0.0.11]: Status change [2-way]->[ExStart](Need Adjacency)
Debug: Dec  9 11:08:28 OSPFv3: NSM[1.0.0.14, 14366]: HelloReceived at 652446, 631139
Debug: Dec  9 11:08:28 OSPFv3: NSM[1.0.0.11, 14369]: HelloReceived at 652447, 631140
Debug: Dec  9 11:08:29 OSPFv3: NSM[14341]: SendHello at 652453
Debug: Dec  9 11:08:29 OSPFv3: NSM[14371]: SendHello at 652457
Debug: Dec  9 11:08:30 OSPFv3: NSM[1.0.0.12, 14371]: HelloReceived at 652461, 631153
Debug: Dec  9 11:08:30 OSPFv3: NSM[14689]: SendHello at 652464
Debug: Dec  9 11:08:30 OSPFv3: NSM[14368]: SendHello at 652468
Debug: Dec  9 11:08:30 OSPFv3: NSM[1.0.0.11]: NegotiationDone
```

debug ipv6 ospf nsm-events

Displays debug information about NSM events.

Syntax

debug ipv6 ospf nsm-events

no debug ipv6 ospf nsm-events

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf nsm-events
    OSPFv3:  nsm-events debugging is on
Debug: Dec  9 11:10:59 OSPFv3: NSM[1.0.0.12, 14368]: HelloReceived at 653956, 632600
Debug: Dec  9 11:10:59 OSPFv3: NSM[1.0.0.11, 14368]: HelloReceived at 653956, 632600
Debug: Dec  9 11:11:00 OSPFv3: NSM[7.0.0.3, 14368]: HelloReceived at 653968, 632612
Debug: Dec  9 11:11:01 OSPFv3: NSM[2.0.0.1, 14341]: HelloReceived at 653971, 632615
Debug: Dec  9 11:11:01 OSPFv3: NSM[14364]: SendHello at 653974
Debug: Dec  9 11:11:01 OSPFv3: NSM[14368]: SendHello at 653980
Debug: Dec  9 11:11:02 OSPFv3: NSM[1.0.0.13, 14364]: HelloReceived at 653981, 632625
Debug: Dec  9 11:11:02 OSPFv3: NSM[14337]: SendHello at 653983
Debug: Dec  9 11:11:02 OSPFv3: NSM[1.0.0.11, 14369]: HelloReceived at 653984, 632628
Debug: Dec  9 11:11:02 OSPFv3: NSM[1.0.0.12, 14371]: HelloReceived at 653985, 632628
Debug: Dec  9 11:11:02 OSPFv3: NSM[14688]: SendHello at 653985
Debug: Dec  9 11:11:03 OSPFv3: NSM[14341]: SendHello at 653993
Debug: Dec  9 11:11:03 OSPFv3: NSM[14369]: SendHello at 653993
Debug: Dec  9 11:11:03 OSPFv3: NSM[1.0.0.14, 14366]: HelloReceived at 653996, 632640
Debug: Dec  9 11:11:05 OSPFv3: NSM[14689]: SendHello at 654011
Debug: Dec  9 11:11:06 OSPFv3: NSM[14371]: SendHello at 654025
Debug: Dec  9 11:11:07 OSPFv3: NSM[14366]: SendHello at 654038
```

debug ipv6 ospf nsm-status

Displays information about the status of NSM.

Syntax

debug ipv6 ospf nsm-status

no debug ipv6 ospf nsm-status

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf nsm-status
OSPFv3:  nsm-status debugging is on
Debug: Dec  9 11:12:19 OSPFv3: NSM[1.0.0.12]: Status change [Down]->[Init](HelloReceived)
Debug: Dec  9 11:12:19 OSPFv3: NSM[1.0.0.12]: Status change [Init]->[2-way](No Need Adjacency)
Debug: Dec  9 11:12:19 OSPFv3: NSM[1.0.0.11]: Status change [Down]->[Init](HelloReceived)
Debug: Dec  9 11:12:19 OSPFv3: NSM[1.0.0.11]: Status change [Init]->[2-way](No Need Adjacency)
Debug: Dec  9 11:12:19 OSPFv3: NSM[1.0.0.11]: Status change [2-way]->[ExStart](Need Adjacency)
Debug: Dec  9 11:12:19 OSPFv3: NSM[1.0.0.11]: Status change [ExStart]->[ExChange](NegotiationDone)
Debug: Dec  9 11:12:19 OSPFv3: NSM[1.0.0.11]: Status change [ExChange]->[Loading](Requestlist Not Empty)
Debug: Dec  9 11:12:20 OSPFv3: NSM[1.0.0.11]: Status change [Loading]->[Full](LoadingDone)
Debug: Dec  9 11:12:20 OSPFv3: NSM[7.0.0.3]: Status change [Down]->[Init](HelloReceived)
Debug: Dec  9 11:12:20 OSPFv3: NSM[7.0.0.3]: Status change [Init]->[2-way](No Need Adjacency)
Debug: Dec  9 11:12:20 OSPFv3: NSM[7.0.0.3]: Status change [2-way]->[ExStart](Need Adjacency)
Debug: Dec  9 11:12:20 OSPFv3: NSM[7.0.0.3]: Status change [ExStart]->[ExChange](NegotiationDone)
Debug: Dec  9 11:12:21 OSPFv3: NSM[7.0.0.3]: Status change [ExChange]->[Full](Requestlist Empty)
```

debug ipv6 ospf packet

Displays all OSPFv3 packets in rx or tx mode.

Syntax

debug ipv6 ospf packet

no debug ipv6 ospf packet

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# device# debug ipv6 ospf packet
OSPFv3: packet debugging is on
device(config-ospf6-router)# Debug: Jan 1 17:20:18 OSPFv3: Rcv Hello on ve 9
OSPFv3: (fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:18 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:23 OSPFv3: Snd Hello on ve 9 OSPFv3:
(fe80::224:38ff:fe21:6400->OSPFv3: ff02::5)
RtrID:10.4.4.8 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:29 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:29 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:32 OSPFv3: Snd Hello on ve 9 OSPFv3:
(fe80::224:38ff:fe21:6400->OSPFv3: ff02::5)
RtrID:10.4.4.8 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:38 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:38 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:43 OSPFv3: Snd Hello on ve 9 OSPFv3:
(fe80::224:38ff:fe21:6400->OSPFv3: ff02::5)
RtrID:10.4.4.8 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:49 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:49 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:54 OSPFv3: Snd Hello on ve 9 OSPFv3:
(fe80::224:38ff:fe21:6400->OSPFv3: ff02::5)
RtrID:10.4.4.8 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:58 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:20:58 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:21:04 OSPFv3: Snd Hello on ve 9 OSPFv3:
(fe80::224:38ff:fe21:6400->OSPFv3: ff02::5)
RtrID:10.4.4.8 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:21:09 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:21:09 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 17:21:14 OSPFv3: Snd Hello on ve 9 OSPFv3:
(fe80::224:38ff:fe21:6400->OSPFv3: ff02::5)
RtrID:10.4.4.8 DR:10.4.4.8 BDR:10.2.2.2
```

debug ipv6 ospf packet-dd

Displays all OSPFv3 data description packets in rx or tx mode.

Syntax

debug ipv6 ospf packet-dd

no debug ipv6 ospf packet-dd

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf packet-dd
OSPFv3: packet-dd debugging is on
device(config-ospf6-router)# Debug: Jan 1 19:06:18 OSPFv3: Rcv DbDesc on ve 9
OSPFv3: (fe80::224:38ff:fed6:7800->OSPFv3: fe80::224:38ff:fe21:6400)
Debug: Jan 1 19:06:18 Option:00-00-13, Bits:07 SEQ:19b40
Debug: Jan 1 19:06:18 OSPFv3: DbDesc from 10.2.2.2 Ignored: state less than Init
Debug: Jan 1 19:06:19 OSPFv3: set dbdesc seqnum 000aa922 for 10.2.2.2
Debug: Jan 1 19:06:19 OSPFv3: Snd DbDesc on ve 9 OSPFv3:
(fe80::224:38ff:fe21:6400->OSPFv3: fe80::224:38ff:fed6:7800)
Debug: Jan 1 19:06:19 Option:00-00-13, Bits:07 SEQ:aa922
Debug: Jan 1 19:06:19 OSPFv3: Rcv DbDesc on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: fe80::224:38ff:fe21:6400)
Debug: Jan 1 19:06:19 Option:00-00-13, Bits:00 SEQ:aa922
Debug: Jan 1 19:06:19 OSPFv3: Snd DbDesc on ve 9 OSPFv3:
(fe80::224:38ff:fe21:6400->OSPFv3: fe80::224:38ff:fed6:7800)
Debug: Jan 1 19:06:19 Option:00-00-13, Bits:01 SEQ:aa923
Debug: Jan 1 19:06:19 OSPFv3: Rcv DbDesc on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: fe80::224:38ff:fe21:6400)
Debug: Jan 1 19:06:19 Option:00-00-13, Bits:00 SEQ:aa923
```

debug ipv6 ospf packet-hello

Displays all OSPFv3 hello packets in rx or tx mode.

Syntax

debug ipv6 ospf packet-hello

no debug ipv6 ospf packet-hello

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf packet-hello
OSPFv3: packet-hello debugging is on
device(config-ospf6-router)# Debug: Jan 1 18:52:05 OSPFv3: Snd Hello on ve 9
OSPFv3: (fe80::224:38ff:fe21:6400->OSPFv3: ff02::5)
RtrID:10.4.4.8 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 18:52:07 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 18:52:07 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 18:52:16 OSPFv3: Snd Hello on ve 9 OSPFv3:
(fe80::224:38ff:fe21:6400->OSPFv3: ff02::5)
RtrID:10.4.4.8 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 18:52:16 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
Debug: Jan 1 18:52:16 OSPFv3: Rcv Hello on ve 9 OSPFv3:
(fe80::224:38ff:fed6:7800->OSPFv3: ff02::5)
RtrID:10.2.2.2 DR:10.4.4.8 BDR:10.2.2.2
```

debug ipv6 ospf packet-lsa-ack

Displays all OSPFv3 LSA acknowledgment packets in rx or tx mode.

Syntax

debug ipv6 ospf packet-lsa-ack

no debug ipv6 ospf packet-lsa-ack

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf packet-lsa-ack
OSPFv3: packet-lsa-ack debugging is on
Debug: Dec  9 11:15:08 OSPFv3: Rcv LSAck on ve 2150  OSPFv3: (fe80::768e:f8ff:fe46:bf60->OSPFv3:
ff02::5)
  Type:2009, LSID:0 Adv:1.0.0.1 SEQ:80000b5e AGE:1
Debug: Dec  9 11:15:08 OSPFv3: Rcv LSAck on ve 2250  OSPFv3: (fe80::224:38ff:fe76:2a40->OSPFv3: ff02::5)
  Type:2009, LSID:0 Adv:1.0.0.1 SEQ:80000b5e AGE:1
Debug: Dec  9 11:15:08 OSPFv3: Rcv LSAck on ve 2122  OSPFv3: (fe80::277:77ff:fe77:1111->OSPFv3: ff02::5)
  Type:2009, LSID:0 Adv:1.0.0.1 SEQ:80000b5e AGE:2
Debug: Dec  9 11:15:08 OSPFv3: neighbor 7.0.0.3 not found, reject received LS ACK
Debug: Dec  9 11:15:08 OSPFv3: Rcv LSAck on ve 120  OSPFv3: (fe80::204:80ff:fe11:1111->OSPFv3: ff02::5)
  Type:2009, LSID:0 Adv:1.0.0.1 SEQ:80000b5e AGE:1
Debug: Dec  9 11:15:08 OSPFv3: Rcv LSAck on ve 1737  OSPFv3: (fe80::768e:f8ff:fef9:b8dc->OSPFv3:
ff02::5)
  Type:2009, LSID:0 Adv:1.0.0.1 SEQ:80000b5e AGE:1
Debug: Dec  9 11:15:08 OSPFv3: Rcv LSAck on ve 1837  OSPFv3: (fe80::768e:f8ff:fe34:b570->OSPFv3:
ff02::5)
  Type:2009, LSID:0 Adv:1.0.0.1 SEQ:80000b5e AGE:1
Debug: Dec  9 11:15:12 OSPFv3: Snd LSAck on ve 2250 OSPFv3: (fe80::ce4e:24ff:fe39:4480->OSPFv3:
fe80::224:38ff:fe76:2a40)
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000035 AGE:2
Debug: Dec  9 11:15:13 OSPFv3: Snd LSAck on ve 2150 OSPFv3: (fe80::ce4e:24ff:fe39:4480->OSPFv3:
fe80::768e:f8ff:fe46:bf60)
  Type:2001, LSID:0 Adv:7.0.0.3 SEQ:800008cc AGE:1
Debug: Dec  9 11:15:13 OSPFv3: Snd LSAck on ve 2250 OSPFv3: (fe80::ce4e:24ff:fe39:4480->OSPFv3:
fe80::224:38ff:fe76:2a40)
  Type:2001, LSID:0 Adv:7.0.0.3 SEQ:800008cc AGE:1
Debug: Dec  9 11:15:13 OSPFv3: Snd LSAck on ve 2250 OSPFv3: (fe80::ce4e:24ff:fe39:4480->OSPFv3:
fe80::224:38ff:fe76:2a40)
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000036 AGE:1
Debug: Dec  9 11:15:13 OSPFv3: Snd LSAck on ve 2150 OSPFv3: (fe80::ce4e:24ff:fe39:4480->OSPFv3:
fe80::768e:f8ff:fe46:bf60)
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000036 AGE:1
Debug: Dec  9 11:15:13 OSPFv3: Snd LSAck on ve 2250 OSPFv3: (fe80::ce4e:24ff:fe39:4480->OSPFv3:
fe80::224:38ff:fe76:2a40)
  Type:2009, LSID:92550 Adv:7.0.0.3 SEQ:8000002d AGE:1
Debug: Dec  9 11:15:13 OSPFv3: Snd LSAck on ve 2150 OSPFv3: (fe80::ce4e:24ff:fe39:4480->OSPFv3:
fe80::768e:f8ff:fe46:bf60)
  Type:2009, LSID:92550 Adv:7.0.0.3 SEQ:8000002d AGE:1
Debug: Dec  9 11:15:13 OSPFv3: Rcv LSAck on ve 2122  OSPFv3: (fe80::768e:f8ff:fe46:bf60->OSPFv3:
ff02::5)
  Type:2001, LSID:0 Adv:7.0.0.3 SEQ:800008cc AGE:1
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000036 AGE:1
  Type:2009, LSID:92550 Adv:7.0.0.3 SEQ:8000002d AGE:1
```

debug ipv6 ospf packet-lsa-req

Displays all OSPFv3 LSA request packets in rx or tx mode.

Syntax

debug ipv6 ospf packet-lsa-req

no debug ipv6 ospf packet-lsa-req

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf packet-lsa-req
OSPFv3: packet-lsa-req debugging is on
Debug: Dec  9 11:18:25 OSPFv3: Snd LSReq on ve 2122 OSPFv3: (fe80::207:50ff:fe75:750->OSPFv3:
fe80::768e:f8ff:fe46:bf60)
  Type:0008, LSID:2049 Adv-Router:1.0.0.11
  Type:0008, LSID:2049 Adv-Router:1.0.0.12
  Type:0008, LSID:14368 Adv-Router:1.0.0.1
  Type:0008, LSID:3085 Adv-Router:7.0.0.3
Debug: Dec  9 11:18:25 OSPFv3: Snd LSReq on ve 2122 OSPFv3: (fe80::207:50ff:fe75:750->OSPFv3:
fe80::768e:f8ff:fe46:bf60)
  Type:0008, LSID:2049 Adv-Router:1.0.0.11
  Type:0008, LSID:2049 Adv-Router:1.0.0.12
  Type:0008, LSID:14368 Adv-Router:1.0.0.1
  Type:0008, LSID:3085 Adv-Router:7.0.0.3
Debug: Dec  9 11:18:26 OSPFv3: Rcv LSReq on ve 2122  OSPFv3: (fe80::277:77ff:fe77:1111->OSPFv3:
fe80::207:50ff:fe75:750)
  Type:2001, LSID:0 Adv-Router:1.0.0.1
  Type:2009, LSID:0 Adv-Router:1.0.0.1
  Type:0008, LSID:14368 Adv-Router:1.0.0.1
```

debug ipv6 ospf packet-lsa-update

Displays all OSPFv3 LSA update packets in rx or tx mode.

Syntax

debug ipv6 ospf packet-lsa-update

no debug ipv6 ospf packet-lsa-update

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf packet-lsa-update
OSPFv3: packet-lsa-update debugging is on
Debug: Dec  9 11:20:18 OSPFv3: Rcv LSUpdate on ve 2150  OSPFv3:(fe80::768e:f8ff:fe46:bf60-
>OSPFv3:ff02::5)
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000039 AGE:2
Debug: Dec  9 11:20:18 OSPFv3: Rcv LSUpdate on ve 2250  OSPFv3:(fe80::224:38ff:fe76:2a40->OSPFv3:
ff02::5)
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000039 AGE:2
Debug: Dec  9 11:20:18 OSPFv3: Snd LSUpdate on ve 120  OSPFv3:(fe80::ce4e:24ff:fe39:4480->OSPFv3:
ff02::5)
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000039 AGE:3
Debug: Dec  9 11:20:18 OSPFv3: Snd LSUpdate on ve 1737 OSPFv3:(fe80::ce4e:24ff:fe39:4480->OSPFv3:
ff02::5)
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000039 AGE:3
Debug: Dec  9 11:20:18 OSPFv3: Snd LSUpdate on ve 1837 OSPFv3:(fe80::ce4e:24ff:fe39:4480->OSPFv3:
ff02::5)
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000039 AGE:3
Debug: Dec  9 11:20:18 OSPFv3: Snd LSUpdate on ve 2250 OSPFv3:(fe80::ce4e:24ff:fe39:4480->OSPFv3:
ff02::5)
  Type:2002, LSID:3085 Adv:7.0.0.3 SEQ:80000039 AGE:3
```

debug ipv6 ospf route

Displays all OSPFv3 routes.

Syntax

debug ipv6 ospf route

no debug ipv6 ospf route

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf route
OSPFv3: route debugging is on
Debug: Dec  9 11:24:18 OSPFv3: add to spf list Inst vrf id 0, flag 0
Debug: Dec  9 11:24:24 OSPFv3: delete from spf list Inst vrf id 0, flag 1
Debug: Dec  9 11:24:24 OSPFv3 ROUTE: release semaphore 1
Debug: Dec  9 11:24:24 OSPFv3: SPF: Calculation for area 0.0.0.0
Debug: Dec  9 11:24:24 OSPFv3: SPF: installing vertex 1.0.0.1
Debug: Dec  9 11:24:24 OSPFv3: SPF: 2.0.0.1:14337 is the first hop
Debug: Dec  9 11:24:24 OSPFv3: SPF : 2.0.0.1:14337 nexthop :: ifindex 14341
Debug: Dec  9 11:24:24 OSPFv3: SPF: Examining Vertex: 2.0.0.1:14337
Debug: Dec  9 11:24:24 OSPFv3: SPF: new node added to candidate list: 2.0.0.1:14337
Debug: Dec  9 11:24:24 OSPFv3: SPF: 1.0.0.13:2050 is the first hop
Debug: Dec  9 11:24:24 OSPFv3: SPF : 1.0.0.13:2050 nexthop :: ifindex 14364
Debug: Dec  9 11:24:24 OSPFv3: SPF: Examining Vertex: 1.0.0.13:2050
Debug: Dec  9 11:24:24 OSPFv3: SPF: new node added to candidate list: 1.0.0.13:2050
Debug: Dec  9 11:24:24 OSPFv3: SPF: 1.0.0.14:2050 is the first hop
Debug: Dec  9 11:24:24 OSPFv3: SPF : 1.0.0.14:2050 nexthop :: ifindex 14366
Debug: Dec  9 11:24:24 OSPFv3: SPF: Examining Vertex: 1.0.0.14:2050
Debug: Dec  9 11:24:24 OSPFv3: SPF: new node added to candidate list: 1.0.0.14:2050
Debug: Dec  9 11:24:24 OSPFv3: SPF: 1.0.0.11:2050 is the first hop
Debug: Dec  9 11:24:24 OSPFv3: SPF : 1.0.0.11:2050 nexthop :: ifindex 14369
Debug: Dec  9 11:24:24 OSPFv3: SPF: Examining Vertex: 1.0.0.11:2050
Debug: Dec  9 11:24:24 OSPFv3: SPF: new node added to candidate list: 1.0.0.11:2050
Debug: Dec  9 11:24:24 OSPFv3: SPF: 1.0.0.12:2050 is the first hop
Debug: Dec  9 11:24:24 OSPFv3: SPF : 1.0.0.12:2050 nexthop :: ifindex 14371
Debug: Dec  9 11:24:24 OSPFv3: SPF: Examining Vertex: 1.0.0.12:2050
Debug: Dec  9 11:24:24 OSPFv3: SPF: new node added to candidate list: 1.0.0.12:2050
Debug: Dec  9 11:24:24 OSPFv3: SPF: installing vertex 2.0.0.1:14337
Debug: Dec  9 11:24:24 OSPFv3: ROUTE: Creating route: 2.0.0.1:14337
```

debug ipv6 ospf route-calc-external

Displays external route calculations.

Syntax

debug ipv6 ospf route-calc-external

no debug ipv6 ospf route-calc-external

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf route-calc-external
OSPFv3: route-calc-external debugging is on
device(config-if-e1000-8/9)# Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE:
External LSA(ID= 37) is Self-originated:
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: External LSA(ID= 39) is
Self-originated:
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: External LSA(ID= 36) is
Self-originated:
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: External LSA(ID= 38) is
Self-originated:
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: External LSA(ID= 40) is
Self-originated:
Debug: Jan 1 19:21:07 OSPFv3: EXTERNAL ROUTE: Forwarding flag specified
```

debug ipv6 ospf route-calc-inter-area

Displays inter-area route calculations.

Syntax

debug ipv6 ospf route-calc-inter-area

no debug ipv6 ospf route-calc-inter-area

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf route-calc-inter-area
OSPFv3: route-calc-inter-area debugging is on
device(config-vif-7)# ipv6 ospf area 1
device(config-vif-7)# sOSPFv3: INTER AREA ROUTE: Inter Area Prefix LSA(ID= 2,
prefix 2001:DB8::/64) is Self-originated. Area id 0.0.0.0
OSPFv3: INTER AREA ROUTE: Inter Area Prefix LSA(ID= 2, prefix 2001:DB8::/64) is
Self-originated. Area id 0.0.0.0
device(config-vif-7)# disable
device(config-vif-7)# OSPFv3: INTER AREA ROUTE: Inter Area Prefix LSA(ID= 2,
prefix 2001:DB8::/64) is Self-originated. Area id 0.0.0.0
device(config-vif-7)# enable
device(config-vif-7)# OSPFv3: INTER AREA ROUTE: Inter Area Prefix LSA(ID= 11,
prefix 2001:DB8::/64) is Self-originated. Area id 0.0.0.0
device(config)# Debug: Jan 1 00:32:22 OSPFv3: INTER AREA ROUTE: Inter Area route
for prefix 2001:DB8::/64 created
```

debug ipv6 ospf route-calc-intra-area

Displays intra-area route calculations.

Syntax

debug ipv6 ospf route-calc-intra-area

no ddebug ipv6 ospf route-calc-intra-area

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf route-calc-intra-area
OSPFv3:  route-calc-intra-area debugging is on
Debug: Dec  9 11:26:41 OSPFv3: Calculating Intra Area routes for area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Calculating Intra Area Stub Routes
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: found Prefix LSA type : IntraPrefix : for Id 0.0.0.0
Advrouter 1.0.0.1
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:1:1:1::/64 cost 1,
area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:101:1:1::/64 cost 100,
area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:200:1:1::/64 cost 100,
area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:205:1:1::/64 cost 100,
area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:210:1:1::/64 cost 100,
 area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:220:1:1::/64 cost 100,
area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:593:1:1::/64 cost 17,
area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:2122:1:1::/64 cost 9,
area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: found Prefix LSA type : IntraPrefix : for Id 0.0.0.0
Advrouter 1.0.0.11
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:1011::1/128 cost 100,
area 0.0.0.0
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: found Prefix LSA type : IntraPrefix : for Id 0.0.0.0
Advrouter 1.0.0.12
Debug: Dec  9 11:26:41 OSPFv3: INTRA AREA ROUTE: Intra Area route install 1001:1012::1/128 cost 100,
area 0.0.0.0
```

debug ipv6 ospf route-calc-spf

Displays SPF route calculations.

Syntax

debug ipv6 ospf route-calc-spf

no debug ipv6 ospf route-calc-spf

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf route-calc-spf
OSPFv3: route-calc-spf debugging is on
Debug: Dec  9 11:29:11 OSPFv3: Schedule routing table build
Debug: Dec  9 11:29:11 OSPFv3: add to spf list Inst vrf id 0, flag 0
Debug: Dec  9 11:29:17 OSPFv3: delete from spf list Inst vrf id 0, flag 1
Debug: Dec  9 11:29:17 OSPFv3: SPF: Calculation for area 0.0.0.0
Debug: Dec  9 11:29:17 OSPFv3: SPF: installing vertex 1.0.0.1
Debug: Dec  9 11:29:17 OSPFv3: SPF: 2.0.0.1:14337 is the first hop
Debug: Dec  9 11:29:17 OSPFv3: SPF : 2.0.0.1:14337 nexthop :: ifindex 14341
Debug: Dec  9 11:29:17 OSPFv3: SPF: Examining Vertex: 2.0.0.1:14337
Debug: Dec  9 11:29:17 OSPFv3: SPF: new node added to candidate list: 2.0.0.1:14337
Debug: Dec  9 11:29:17 OSPFv3: SPF: 1.0.0.13:2050 is the first hop
Debug: Dec  9 11:29:17 OSPFv3: SPF : 1.0.0.13:2050 nexthop :: ifindex 14364
Debug: Dec  9 11:29:17 OSPFv3: SPF: Examining Vertex: 1.0.0.13:2050
Debug: Dec  9 11:29:17 OSPFv3: SPF: new node added to candidate list: 1.0.0.13:2050
Debug: Dec  9 11:29:17 OSPFv3: SPF: 1.0.0.14:2050 is the first hop
Debug: Dec  9 11:29:17 OSPFv3: SPF : 1.0.0.14:2050 nexthop :: ifindex 14366
Debug: Dec  9 11:29:17 OSPFv3: SPF: Examining Vertex: 1.0.0.14:2050
Debug: Dec  9 11:29:17 OSPFv3: SPF: new node added to candidate list: 1.0.0.14:2050
Debug: Dec  9 11:29:17 OSPFv3: SPF: 1.0.0.11:2050 is the first hop
Debug: Dec  9 11:29:17 OSPFv3: SPF : 1.0.0.11:2050 nexthop :: ifindex 14369
Debug: Dec  9 11:29:17 OSPFv3: SPF: Examining Vertex: 1.0.0.11:2050
Debug: Dec  9 11:29:17 OSPFv3: SPF: new node added to candidate list: 1.0.0.11:2050
Debug: Dec  9 11:29:17 OSPFv3: SPF: 1.0.0.12:2050 is the first hop
Debug: Dec  9 11:29:17 OSPFv3: SPF : 1.0.0.12:2050 nexthop :: ifindex 14371
Debug: Dec  9 11:29:17 OSPFv3: SPF: Examining Vertex: 1.0.0.12:2050
Debug: Dec  9 11:29:17 OSPFv3: SPF: new node added to candidate list: 1.0.0.12:2050
Debug: Dec  9 11:29:17 OSPFv3: SPF: installing vertex 2.0.0.1:14337
Debug: Dec  9 11:29:17 OSPFv3: SPF : 2.0.0.1:0 nexthop fe80::204:80ff:fe11:1111 ifindex 14341
```

debug ipv6 ospf route-install

Displays all OSPFv3 installed routes.

Syntax

debug ipv6 ospf route-install

no debug ipv6 ospf route-install

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 ospf route-install
OSPFv3: route-install debugging is on
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 2.0.0.1:14337
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 2.0.0.1:0
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1.0.0.13:2050
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1.0.0.14:2050
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1.0.0.11:2050
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1.0.0.12:2050
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1.0.0.12:0
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1.0.0.11:0
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1.0.0.14:0
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1.0.0.13:0
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 7.0.0.3:3085
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 7.0.0.3:0
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:1:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:101:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:200:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:205:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:210:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:220:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:593:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:2122:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: route changed, new route preferred: 1001:2122:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:1011::1/128
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:1012::1/128
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1002:201:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:21:5:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:22:5:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:17:37:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:18:37:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:2122:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:120:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:1392:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Creating route: 1001:1382:1:1::/64
Debug: Dec  9 11:33:52 OSPFv3: ROUTE: Validate routing table
Debug: Dec  9 11:33:52 OSPFv3: Validating route 1001:1:1:1::/64, nexthop cnt 1, route_info->flag 0x2
Debug: Dec  9 11:33:52 OSPFv3: Validating route 1001:17:37:1::/64, nexthop cnt 1, route_info->flag 0x2
Debug: Dec  9 11:33:52 OSPFv3: Validating route 1001:18:37:1::/64, nexthop cnt 1, route_info->flag 0x2
Debug: Dec  9 11:33:52 OSPFv3: Validating route 1001:21:5:1::/64, nexthop cnt 1, route_info->flag 0x2
Debug: Dec  9 11:33:52 OSPFv3: Validating route 1001:22:5:1::/64, nexthop cnt 1, route_info->flag 0x2
Debug: Dec  9 11:33:52 OSPFv3: Validating route 1001:101:1:1::/64, nexthop cnt 1, route_info->flag 0x2
Debug: Dec  9 11:33:52 OSPFv3: Validating route 1001:120:1:1::/64, nexthop cnt 1, route_info->flag 0x2
Debug: Dec  9 11:33:52 OSPFv3: Validating route 1001:200:1:1::/64, nexthop cnt 1, route_info->flag 0x2
```

debug ipv6 pim bootstrap

Enables IPv6 Protocol Independent Multicast (PIM) bootstrap debugging.

Syntax

debug ipv6 pim bootstrap

no debug ipv6 pim bootstrap

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command disables IPv6 PIM bootstrap debugging.

Examples

```
device# debug ipv6 pim bootstrap
PIM6: bootstrap debugging is on
device# PIM-BSR.VRF0: Prefer BSR 2001:DB8::12(Pr 120) over current BSR
2001:DB8::12(Pr 120)
PIM-BSR.VRF0: Intf v1844 - accept BSM from BSR 2001:DB8::12(Pr 120), local state
CandBSR, curr BSR 2001:DB8::12 (Pr 120)
```

debug ipv6 pim clear

Clears all the IPv6 PIM debug settings.

Syntax

debug ipv6 pim clear

no debug ipv6 pim clear

Modes

Privileged EXEC mode

Examples

If no settings are enabled, output similar to the following will be displayed.

```
device# debug ip pim clear
no debug ip pim is enabled
```

debug ipv6 pim event

Enables debugging of IPv6 PIM events.

Syntax

debug ipv6 pim event

no debug ipv6 pim event

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command disables debugging of IPv6 PIM events.

Examples

```
device# debug ipv6 pim event
PIM6: event debugging is on
PIM-EVT.VRF0: Receive intf v1844 Dn state_notify
Mcast6v6 receive event 16
PIM6-EVT: Received vport v1844/1/1/11 Dn state notify
Mcast6v6 receive event 16
PIM6-EVT: Received vport v1844/1/1/12 Dn state notify
Mcast6v6 receive event 16
PIM6-EVT: Received vport v1844/1/1/13 Dn state notify
Mcast6v6 receive event 16
Mcast6v6 receive event 13
PIM6-EVT: Received vport v1844/1/1/14 Dn state notify
MC-EVT: Port v1844 state changed to DOWN
PIM-EVT.VRF0: Receive intf v1844 Dn state_notify
PIM6-EVT: Received vport v1844/1/1/14 Dn state notify
```

debug ipv6 pim group

Displays the IPv6 PIM related debugging information for the specified PIM group.

Syntax

debug ipv6 pim group*group_addr*

no debug ipv6 pim group *group_addr*

Parameters

group_addr

Specifies the group address of the PIM.

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 pim group ff0::8
PIM6: group ff0::8 debugging is on
device# PIM.VRF0: Deallocated hw resources for (7400::200 ff0::8), parent:
NIL,Nil. olist not empty
VRF0 Flow Entry Delete (2001:DB8::200 ff0::1) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::2) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::3) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::4) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::5) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::6) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::7) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::8) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::9) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::a) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::b) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::c) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::d) HW bits: 1 1
VRF0 Flow Entry Delete (2001:DB8::200 ff0::e) HW bits: 1 1
```

debug ipv6 pim join-prune

Controls join prune processing and displays debugging information related to the IPv6 join prune messages.

Syntax

debug ipv6 pim join-prune

no debug ipv6 pim join-prune

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 pim join-prune
PIM6: join-prune debugging is on
device# PIMSM.0: BEGIN J/P proc: rpf_nbr fe80::768e:f8ff:fe34:3c80, to_me=1 from
fe80::768e:f8ff:fe3e:9600, intf v1844 ----
Group=ff0::1. Join list: 1 srcs
J-Src=2001:DB8::200, wc=0, rpt=0, SM=1
PIM.VRF0: Processing (S,G) Join (2001:DB8::200 ff84::1) from
fe80::768e:f8ff:fe3e:9600, intf v1844,1/1/11
Group=ff0::1. Prune list: 0 srcs
Group=ff0::2. Join list: 1 srcs
J-Src=2001:DB8::200, wc=0, rpt=0, SM=1
PIM.VRF0: Processing (S,G) Join (2001:DB8::200 ff84::2) from
fe80::768e:f8ff:fe3e:9600, intf v1844,1/1/11
Group=ff0::2. Prune list: 0 srcs
Group=ff0::3. Join list: 1 srcs
J-Src=2001:DB8::200, wc=0, rpt=0, SM=1
PIM.VRF0: Processing (S,G) Join (2001:DB8::200 ff84::3) from
fe80::768e:f8ff:fe3e:9600, intf v1844,1/1/11
Group=ff0::3. Prune list: 0 srcs
Group=ff0::4. Join list: 1 srcs
J-Src=2001:DB8::200, wc=0, rpt=0, SM=1
PIM.VRF0: Processing (S,G) Join (2001:DB8::200 ff84::4) from
fe80::768e:f8ff:fe3e:9600, intf v1844,1/1/11
Group=ff0::4. Prune list: 0 srcs
Group=ff0::5. Join list: 1 srcs
J-Src=2001:DB8::200, wc=0, rpt=0, SM=1
PIM.VRF0: Processing (S,G) Join (2001:DB8::200 ff84::5) from
fe80::768e:f8ff:fe3e:9600, intf v1844,1/1/11
Group=ff0::5. Prune list: 0 srcs
Group=ff0::6. Join list: 1 srcs
J-Src=2001:DB8::200, wc=0, rpt=0, SM=1
PIM.VRF0: Processing (S,G) Join (2001:DB8::200 ff84::6) from
fe80::768e:f8ff:fe3e:9600, intf v1844,1/1/11
```

debug ipv6 pim nbr-change

Controls the IPv6 PIM neighbor changes.

Syntax

debug ipv6 pim nbr-change[*nbr_address*]

no debug ipv6 pim nbr-change[*nbr_address*]

Parameters

nbr_address

Specifies the neighbor address.

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 pim nbr-change
PIM6: nbr-change debugging is on
device# PIM.VRF0: Rx Hello msg from fe80::768e:f8ff:fe3e:9600 on intf v1844,
1/1/11-1/1/14
device(config-if-e1000-1/1/11)# disable
device(config-if-e1000-1/1/11)# PIM-NBR.VRF0: Neighbor fe80::768e:f8ff:fe3e:9600
on interface v1844, 1/1/11 deleted on port-down
PIM.VRF0: Rx Hello msg from fe80::768e:f8ff:fe46:5580 on intf v170, 6/1/17
PIM.VRF0: Rx Hello msg from fe80::768e:f8ff:fe46:5580 on intf v170, 6/1/17
device(config-if-e1000-1/1/11)# enable
device(config-if-e1000-1/1/11)# PIM.VRF0: Rx Hello msg from
fe80::768e:f8ff:fe46:5580 on intf v170, 6/1/17
PIM.VRF0: Rx Hello msg from fe80::768e:f8ff:fe46:5580 on intf v170, 6/1/17
PIMV2 rcvd from fe80::768e:f8ff:fe3e:9600 on v1844 (phy e1/1/11), not pim
neighbour
PIM.VRF0: Rx Hello msg from fe80::768e:f8ff:fe3e:9600 on intf v1844, 1/1/11-1/1/14
PIM-NBR.VRF0: Neighbor fe80::768e:f8ff:fe3e:9600 on interface v1844, 1/1/11 genid
changed from 4294953471 to 13824
PIM-NBR.VRF0: GenId changed for Neighbor fe80::768e:f8ff:fe3e:9600 on interface
v1844, 1/1/11 ; new GenId 13824
PIM-NBR.VRF0: Neighbor fe80::768e:f8ff:fe3e:9600 on interface v1844, 1/1/11 added
PIM.VRF0: Rx Hello msg from fe80::768e:f8ff:fe46:5580 on intf v170, 6/1/17
PIM.VRF0: Rx Hello msg from fe80::768e:f8ff:fe46:5580 on intf v170, 6/1/17
PIM.VRF0: Rx Hello msg from fe80::768e:f8ff:fe3e:9600 on intf v1844, 1/1/11-1/1/14
```

debug ipv6 pim packet

Displays debugging information about the IPv6 PIM packets.

Syntax

debug ipv6 pim packet *source_address group_address* [**rate**]

no debug ipv6 pim packet *source_address group_address* [**rate**]

Parameters

source_address

Specifies the IPv6 source address of the PIM packet.

group_address

Specifies the IPv6 group address of the PIM packet.

rate

Specifies the hardware rate.

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 pim packet
device# debug ipv6 pim packet 102:1:1::16 ff1e::4:5:1
debug packet S=102:1:1::16 G=ff1e::4:5:1
device# Debug: Jan  2 01:37:27 Rx Pkt (102:1:1::16, ff1e::4:5:1) on v102(4/4/1).
Debug: Jan  2 01:37:27    src local, create (S,G) and send MCAST_CREATE_NOTIFICATION
Debug: Jan  2 01:37:27   send MCAST_FIRST_DATA: entry phy port: 4/4/1, pkt input port: 4/4/1. SPT-T,
FAST-F
Debug: Jan  2 01:37:27    (102:1:1::16,ff1e::4:5:1), pkt incoming at v102, REG: OFF, FWD_FAST: OFF,
hw_drop: ON
Debug: Jan  2 01:37:27 Rx Pkt (102:1:1::16, ff1e::4:5:2) on v102(4/4/1).
Debug: Jan  2 01:37:27    src local, create (S,G) and send MCAST_CREATE_NOTIFICATION
Debug: Jan  2 01:37:27   send MCAST_FIRST_DATA: entry phy port: 4/4/1, pkt input port: 4/4/1.
SPT-T, FAST-F
```

debug ipv6 pim regproc

Controls IPv6 PIM register processing.

Syntax

debug ipv6 pim regproc

no debug ipv6 pim regproc

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 pim regproc
PIM6: regproc debugging is on
device# PIMSM-REG.VRF0: (2001:DB8::200 ff0::1) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::2) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::3) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::4) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::5) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::6) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::7) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::8) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::9) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::a) Sending L2-Null Reg on iface v74
PIMSM-REG.VRF0: (2001:DB8::200 ff0::b) Sending L2-Null Reg on iface v74
```

debug ipv6 pim rp

Controls the Rendezvouz Point (RP) processing for IPv6 PIM events.

Syntax

debug ipv6 pim rp

no debug ipv6 pim rp

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 pim rp
PIM6: rp debugging is on
device# PIMv6-CRP.VRF0: Sending Candidate RP Msg (size 46)
PIMv6-CRP.VRF0: Sending Candidate RP Msg (size 46)
```

debug ipv6 pim show

Displays the IPv6 PIM debug settings.

Syntax

debug ipv6 pim show

no debug ipv6 pim show

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 pim show
pim6 debug-enable-any = 1
```

debug ipv6 pim source

Displays the IPv6 PIM related debugging information for the specified source address.

Syntax

debug ipv6 pim source *ipaddr*

no debug ipv6 pim source *ipaddr*

Parameters

ipaddr

Specifies the source IP address.

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 pim source 2001:DB8::200
PIM6: source 2001:DB8::200 debugging is on
device# PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::1), parent:
NIL,Nil. olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::2), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::3), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::4), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::5), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::6), parent: NIL,Nil.
olist not empt
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::7), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::8), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::9), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::a), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::b), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::c), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::d), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::e), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::f), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::10), parent: NIL,Nil.
olist not empty
PIM.VRF0: Deallocated hw resources for (2001:DB8::200 ff0::11), parent: NIL,Nil.
olist not empty
```

debug ipv6 pimsm-snoop

Troubleshoots issues related to IPv6 PIM-SM snoop configurations.

Syntax

debug ipv6 pimsm-snoop [**add-del-oif** | **all** | **clear** | **control-source** | **error** | **fsm** | **group** | **join-prune** | **physical-port** | **show** | **source** | **stacktrace** | **timer** | **vlan**]

no debug ipv6 pimsm-snoop [**add-del-oif** | **all** | **clear** | **control-source** | **error** | **fsm** | **group** | **join-prune** | **physical-port** | **show** | **source** | **stacktrace** | **timer** | **vlan**]

Parameters

add-del-oif
Displays debugs related to the addition and deletion of outbound interfaces (OIFs) in Mcache.

all
Enables all PIM-SM snoop related debugs.

clear
Clears all PIM-SM snoop related debug settings.

control-source
Displays PIM-SM snooping related debug information for the specified control source address.

error
Monitors error messages related to PIM-SM snoopng.

fsm
Enables debugging of Finite State Machine (FSM) transactions.

group
Displays PIM-SM snooping information for a specific group.

join-prune
Monitors PIM-SM snoop join and prune messages.

physical-port
Displays information of PIM-SM physical ports that are connected.

show
Displays all PIM-SM snoop related debug settings.

source
Displays PIM-SM snooping related debug information for the specified server source address.

stacktrace
Displays debug messages accompanied by call stack dump.

timer
Enables PIM-SM snoop timer debugging.

vlan
Enables PIM-SM snoop debugging for a particular VLAN.

Modes

Privileged EXEC mode

Global configuration mode

Usage Guidelines

Examples

The following is sample output from the debug ipv6 pimsm-snoop timer command.

```
device# debug ipv6 pimsm-snoop timer
14d 6:29:33 - v6PSNOOP_SRC: PIMv2 Join/Prune from fe80::224:38ff:fe76:5180 to
upstream Neig-Addr fe80::224:38ff:fe77:7440 port 1/1/9 on vlan 503, holdtime 210,
payload length 70
14d 6:29:33 - v6PSNOOP_JP: Rcv Join-Prune Group : ff7e::1:2:3, #join src 1,
#prune src 0
14d 6:29:33 - v6PSNOOP_JP: join source 2222::22 flags: S WC RPT
14d 6:29:33 - v6PSNOOP_JP: Rcv Join: (* ff7e::1:2:3) -> 1/1/4
14d 6:29:33 - v6PSNOOP_FSM: (* G) Join for SG_RPT(3000::10, ff7e::1:2:3, 503),
oif(1/1/4): NI -> NI
14d 6:29:33 - v6PSNOOP_TIMER: timer restart: 217 ticks, timer type: old SG -> new
SG, fsm state: J
14d 6:29:33 - v6PSNOOP_FSM: RCV_SG(*, ff7e::1:2:3, 503), oif(1/1/4): J -> J
```

debug ipv6 ra

Enables router advertisement (RA) message debug logs and displays the debugging information about ingoing and outgoing RA messages.

Syntax

debug ipv6 ra

no debug ipv6 ra

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command disables the RA debug logs.

Examples

The following example displays debugging information for Recursive DNS server (RDNSS) address entries in an RA message.

```
device# debug ipv6 ra
…
ICMPv6-RA:  DNS server list with lifetime 400
          [1] DNS address 1::1
          [2] DNS address 1::2
ICMPv6-RA:  DNS server list with lifetime 800
          [1] DNS address 1::5
          [2] DNS address 1::6
ICMPv6-RA:  DNS server list with lifetime 1200
          [1] DNS address 1::3
          [2] DNS address 1::4
…
```

The following example displays debugging information for Domain Name System Search List (DNSSL) entries in an RA message.

```
device# debug ipv6 ra
…
ICMPv6-RA:  Domain Name list with lifetime 400
          [1] Domain Name a.com
          [2] Domain Name b.com
          [3] Domain Name c.com
          [4] Domain Name d.com

ICMPv6-RA:  Domain Name list with lifetime 800
          [1] Domain Name h.com
          [2] Domain Name i.com
          [3] Domain Name j.com
          [4] Domain Name k.com
          [5] Domain Name l.com

ICMPv6-RA:  Domain Name list with lifetime 1200
          [1] Domain Name e.com
          [2] Domain Name f.com
…
```

History

Release version	Command history
08.0.80	This command was modified to display information about DNSSL and RDNSS entries.

debug ipv6 raguard

Enables RA guard debug messages.

Syntax

debug ipv6 raguard

no debug ipv6 raguard

Modes

Privileged EXEC mode

Examples

```
device# debug ipv6 raguard
00 days 00h40m49s:I:RAGuard: prefix in router advertisement rejected by
prefix-list
00 days 00h40m49s:I:RAGuard: prefix in router advertisement passed prefix-list
00 days 00h40m49s:I:RAGuard: Packet received on Host port 1/1/5. Dropped.
00 days 00h40m49s:I:RAGuard: Packet received on a Trusted port 1/1/5. Forward.
00 days 00h40m49s:I:RAGuard: Packet preference is greater than policy configured
maximum on port 1/1/5, vlan 10
00 days 00h40m49s:I:RAGuard: IPv6 address of packet matches Whitelist
fe80:100::100:1 on port 1/1/5, vlan 10
00 days 00h40m49s:I:RAGuard: IPv6 address of the packet does not match the
whitelist fe80:100::100:1 on port 1/1/5, vlan 10
00 days 00h40m49s:I:RAGuard: packet passes prefix-list examplelist1 on port 1/1/5,
vlan 10
00 days 00h40m49s:I:RAGuard: packet does not pass prefix-list examplelist1 on port
1/1/5, vlan 10
00 days 00h40m49s:I:RAGuard: prefix-list examplelist1 on policy examplepolicy1
not found
00 days 00h40m49s:I:RAGuard: Not enabled for vlan 10, port 1/1/5
00 days 00h40m49s:I:RAGuard: Feature ON for vlan 10, port 1/1/5
```

debug ipv6 rip events

Displays debugging information about the IPv6 Routing Information Protocol (RIP) events.

Syntax

debug ipv6 rip events

no debug ipv6 rip events

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 rip events
device(config-vif-11)# RIPng: update timer expired
clear ipv routeRIPng: triggered update
RIPng: garbage prefix 2001:DB8::/64 timer 1, metric 0, tag 0
from :: on interface NULL
RIPng: garbage prefix 2001:DB8::/64 timer 1, metric 0, tag 0
from :: on interface NULL
RIPng: Adding local connected route 2001:DB8::1/64 on interface v11
RIPng: Adding local connected route 2001:DB8::1/64 on interface v12
RIPng: update timer expired
RIPng: Redistribute add route 2001:DB8::/64, type CONNECTED (1/0)
RIPng: Redistribute add route 2001:DB8::/64, type CONNECTED (1/0)
```

debug ipv6 rip receive

Displays debugging information about the IPv6 RIP packets received.

Syntax

debug ipv6 rip receive

no debug ipv6 rip receive

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug ipv6 rip receive
device(config-vif-11)# RIPng: received packet from fe80::224:38ff:fe9f:7500 port
521 on interface v11
command response version 1 packet size 64
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
RIPng: received packet from fe80::224:38ff:fe9f:7500 port 521 on interface v12
command response version 1 packet size 64
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
RIPng: received packet from fe80::224:38ff:fe9f:7500 port 521 on interface v11
command response version 1 packet size 64
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
RIPng: received packet from fe80::224:38ff:fe9f:7500 port 521 on interface v11
command response version 1 packet size 64
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
RIPng: received packet from fe80::224:38ff:fe9f:7500 port 521 on interface v11
command response version 1 packet size 64
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
RIPng: received packet from fe80::224:38ff:fe9f:7500 port 521 on interface v11
command response version 1 packet size 64
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
prefix 2001:DB8::/64 metric 1 tag 0
```

debug keychain

Enables keychain debugging.

Syntax

debug keychain { *keychain-name* | *key-id* | **all** | **config** | **error** | **events** | **show** }

no debug keychain { *keychain-name* | *key-id* | **all** | **config** | **error** | **events** | **show** }

Parameters

keychain-name
: Enables debugging of all operations with a specific keychain name.

key-id
: Enables debugging of all operations with a specific key ID of a keychain.

all
: Enables debugging of all keychain instances.

config
: Displays debugging during configuration.

error
: Displays error messages from the keychain module.

events
: Enables debugging of all timer-related events.

show
: Displays the keychain debug settings.

Modes

Privileged EXEC mode

Usage Guidelines

If the key ID is under multiple keychains, the debug message will be displayed.

The **no** form of the command disables keychain debugging.

Examples

The following example prints debugging during configuration.

```
device# debug keychain config
keychain config debug is enabled
ICX7450-24 Router#conf t
ICX7450-24 Router(config)#keychain abc
Debug: Sep 21 13:32:37  KEYCHAIN_DEBUG_CONFIG: Keychain abc configuration success.
Debug: Sep 21 13:32:37  KEYCHAIN_DEBUG_CONFIG: Keychain configuration success conf type Keychain Create-
Update-Delete
Debug: Sep 21 13:32:37  KEYCHAIN_DEBUG_CONFIG: Keychain configuration success keychain name abc
ICX7450-24 Router(config-keychain-abc)#
```

The following example enables debugging of all keychain instances.

```
device# debug keychain all

keychain all debug is enabled

Debug: Sep 21 13:41:02  Year: 2017, Mon: 9, Day: 21, Hour: 13, Min: 40, Sec: 0 TZone: 2 -- (Secs:
3714990000, SummTime: 3714990000, GMT: 0)
Debug: Sep 21 13:41:02  Year: 2017, Mon: 9, Day: 21, Hour: 13, Min: 42, Sec: 0 TZone: 2 -- (Secs:
3714990120, SummTime: 3714990120, GMT: 0)
Debug: Sep 21 13:41:02  Keychain abc Key-Id 1: Send key end duration 58 sec □ How long the key is going
to be active
Debug: Sep 21 13:41:02  KEYCHAIN_DEBUG_EVENTS: Send Timer Started - Keychain abc Key-Id 1 Active 1, 29
sec
Debug: Sep 21 13:41:31  Year: 2017, Mon: 9, Day: 21, Hour: 13, Min: 40, Sec: 0 TZone: 2 -- (Secs:
3714990000, SummTime: 3714990000, GMT: 0)
Debug: Sep 21 13:41:31  Year: 2017, Mon: 9, Day: 21, Hour: 13, Min: 42, Sec: 0 TZone: 2 -- (Secs:
3714990120, SummTime: 3714990120, GMT: 0)
Debug: Sep 21 13:41:31  Keychain abc Key-Id 1: Send key end duration 29 sec
Debug: Sep 21 13:41:31  KEYCHAIN_DEBUG_EVENTS: Send Timer Started - Keychain abc Key-Id 1 Active 1, 14
sec
Debug: Sep 21 13:41:45  Year: 2017, Mon: 9, Day: 21, Hour: 13, Min: 40, Sec: 0 TZone: 2 -- (Secs:
3714990000, SummTime: 3714990000, GMT: 0)
Debug: Sep 21 13:41:45  Year: 2017, Mon: 9, Day: 21, Hour: 13, Min: 42, Sec: 0 TZone: 2 -- (Secs:
3714990120, SummTime: 3714990120, GMT: 0)
Debug: Sep 21 13:41:45  Keychain abc Key-Id 1: Send key end duration 15 sec □ 15 seconds
Debug: Sep 21 13:41:45  KEYCHAIN_DEBUG_EVENTS: Send Timer Started - Keychain abc Key-Id 1 Active 1, 7
sec
Debug: Sep 21 13:41:47  keychain tick Last Expire 15976056, Current 15977098 Diff 1042 Delta 212715814
```

History

Release version	Command history
08.0.70	This command was introduced.

debug license

Displays the package information on which the license has been loaded.

Syntax

debug license

no debug license

Modes

Privileged EXEC mode

Global configuration mode

Usage Guidelines

show license

Examples

After enabling debugging:

```
device# debug license
License all debugging ON
device# license delete  unit   unit id
device# license delete unit 1    all     delete all software licenses
  index   software license index
device# license delet unit 1 index 2 Can't delete the license specified by index(2) -
141(LICENSE_IN_USE)
device# license delet unit 1 index 2
SYSLOG: <44> Dec  9 11:18:38 device Stack 1: The 'ICX7450-PREM-LIC-SW' license has been deleted
on this unit and is available for redeployment on another unit in accordance with the terms and
conditions of use. All features associated to this license must be disabled.

SYSLOG: <46> Dec  9 11:18:38 device License: Normal license package ICX7450-PREM-LIC-SW
with LID ENG08D21100 is removed on unit 1
device# show license
Index    Lic Mode        Lic Name              Lid/Serial No  Lic Type  StatusLic Period    Lic
Capacity
Stack unit 1:
2        Non-Node Lock   ICX7450-PREM-LIC-SW    EN09429C1D8    Normal      Active   Unlimited     1
Stack unit 12:
1        Non-Node Lock   ICX7450-PREM-LIC-SW    ENG08D21100    Normal      Active   Unlimited     1
```

debug loop-detect

Allows the Ruckus devices to detect loops using the Ruckus Port Loop Detection (PLD) protocol 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.

Syntax

debug loop-detect

no debug loop-detect

Usage Guidelines

Examples

NOTE
Execute the command prior to configuring the modes.

The following example shows how to configure loop detection of a single port in strict mode.

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

When there is loop detection activity in the device, the debug information regarding loop detection is displayed on the console. The following example shows the output 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
```

The following example shows how to configure loop detection in a VLAN in loose mode.

```
Configure loop-detection loose mode on port vlan 2 :
device(config-vlan-2)# loop-detection
device(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
```

debug loop-detect level

Debugs loop detection in a particular level.

Syntax

debug loop-detect level *decimal*

no debug loop-detect level *decimal*

Parameters

decimal

Specifies the level.

Examples

```
device# debug loop-detect level 1
```

Strict mode:

```
Topology: port 1/1/25 is single port.
device# debug loop-detect level 3
Configure loop-detection on port 1/1/25 :
device(config-if-e1000-1/1/25)# loop-detection
device(config-if-e1000-1/1/25)# Loop-detection: port 1/1/25 (vlan=1), put into
errdisable state
```

Loose mode:

```
Topology: port 1/1/31 is connected to 1/1/32 in same vlan.

Configure loop-detection on port vlan 2 :
device(config-vlan-2)# loop-detection
device(config-vlan-2)# Loop-detection: port 1/1/31 (vlan=2), put into errdisable
state
Loop-detection: port 1/1/32 (vlan=2), put into errdisable state
```

debug mac

Enables the Media Access Control (MAC) address debugging action.

Syntax

debug mac

no debug mac

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug mac
MAC DB: Action debugging is on
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
device# 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
```

debug mac-authentication

Enables the MAC authentication debugging for a single port.

Syntax

debug mac-authentication*hex*

no debug mac-authentication *hex*

Parameters

hex

Specifies the hexadecimal number of the port.

Modes

Privileged EXEC mode

Usage Guidelines

The no form of the command disables the MAC authentication debugging for a single port.

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 device and the RADIUS server.

Examples

```
device(config)# debug mac-authentication
device(config)# Debug: Dec  9 10:59:56 Search for dot1x session with portid=1/2/4 and
sessionid=[104433,ffc0002] in queue.. entry not found.
Debug: Dec  9 10:59:56 Extracted username=0010.4433.0002 from EAP buffer.

Debug: Dec  9 10:59:56 AAA-DOT1X (MACAUTH) - Created a new session for MAC Authentication
Debug: Dec  9 10:59:56 Append a dot1x session: portid=1/2/4, sessionid=[104433,ffc0002], Total
entries=1.
Debug: Dec  9 10:59:56 AAA Queue Display Start...Total Entries: 1

Debug: Dec  9 10:59:56 PortId=67, SessionId=[104433,ffc0002] Username=0010.4433.0002, RadiusClient=255
Debug: Dec  9 10:59:56 PortId=67, SessionId=[104433,ffc0002] Username=0010.4433.0002, RadiusClient=255
Debug: Dec  9 10:59:56 AAA Queue Display End.

Debug: Dec  9 10:59:56 Reseting RADIUS Client structure
Debug: Dec  9 10:59:56 RADIUS: Reset client 0, Session type 2, Total number of active clients=1

Debug: Dec  9 10:59:56 AAA: Open RADIUS UDP port

Debug: Dec  9 10:59:56 Tracing the outgoing Radius Authentication packet..
Debug: Dec  9 10:59:56 UDP packet source IP=10.37.171.160, port=1058, destination IP=10.20.67.118,
port=1812
Debug: Dec  9 10:59:56 Radius Header (hex): Code=01 Identifier=09 Length=0073
Debug: Dec  9 10:59:56 Authenticator (hex):6f9196ca14bad62531e7d8fe265b57f2
Debug: Dec  9 10:59:56  Attribute Type(hex)=01 Len(hex)=10 Value (ASCII)=0010.4433.0002
Debug: Dec  9 10:59:56  Attribute Type(hex)=02 Len(hex)=12 Value (hex)=bce0,ddq%/a9fdc0903X1el1a
Debug: Dec  9 10:59:56  Attribute Type(hex)=06 Len(hex)=06 Value (hex)=00000002
Debug: Dec  9 10:59:56  Attribute Type(hex)=0c Len(hex)=06 Value (hex)=000005dc
Debug: Dec  9 10:59:56  Attribute Type(hex)=04 Len(hex)=06 Value (hex)=0a%aba0
Debug: Dec  9 10:59:56  Attribute Type(hex)=3d Len(hex)=06 Value (hex)=0000000f
Debug: Dec  9 10:59:56  Attribute Type(hex)=05 Len(hex)=06 Value (hex)=000000D
Debug: Dec  9 10:59:56  Attribute Type(hex)=20 Len(hex)=0c Value (hex)=Pavan_Sica
Debug: Dec  9 10:59:56  Attribute Type(hex)=1f Len(hex)=13 Value (ASCII)=00-10-44-33-00-02
Debug: Dec  9 10:59:56

Debug: Dec  9 10:59:56 Search for dot1x session returned by RADIUS in AAA queue.. found entry.
Debug: Dec  9 10:59:57 RADIUS message received from server of len 39.
Debug: Dec  9 10:59:57 Tracing the received Radius packet..
Debug: Dec  9 10:59:57 Radius Header (hex): Code=02 Identifier=09 Length=0027
Debug: Dec  9 10:59:57 Authenticator (hex):da222c4bee99aa71e4991208a72fcff2
Debug: Dec  9 10:59:57  Attribute Type(hex)=40 Len(hex)=06 Value (hex)=0000000d
Debug: Dec  9 10:59:57  Attribute Type(hex)=41 Len(hex)=06 Value (hex)=00000006
Debug: Dec  9 10:59:57  Attribute Type(hex)=51 Len(hex)=07 Value (hex)=U:100
Debug: Dec  9 10:59:57

Debug: Dec  9 10:59:57 RADIUS Timer cancelled for client 0.
Debug: Dec  9 10:59:57 RADIUS server ACCEPTed request
Debug: Dec  9 10:59:57 Search for dot1x session returned by RADIUS in AAA queue.. found entry.
Debug: Dec  9 10:59:57 AAA-DOT1X (MACAUTH): Authentication successful for port 1/2/4
session [104433,ffc0002]. RADIUS 0/9

Debug: Dec  9 10:59:57 AAA send response to dot1x port 67 sessId [104433,ffc0002]

Debug: Dec  9 10:59:57 One entry in the dot1x list.
Debug: Dec  9 10:59:57 Delete a dot1x session: portid=1/2/4, sessionid=[104433,ffc0002], Entries left=0.

Debug: Dec  9 10:59:57 Closing RADIUS UDP port

Debug: Dec  9 10:59:57 RADIUS: radius_authenticate_stop for client Idx 0. Actv Clients left 0
Debug: Dec  9 10:59:57 Reseting RADIUS Client structure
Debug: Dec  9 10:59:57 [T:1020671] [VLAN] [MGMT-POR] :
802.1X: vlan_name (String): 100 is now converted to vlan id (Decimal): 100
```

debug mecid

Displays debugging information for ME-CID Manager.

Syntax

debug mecid [**all** | **cascade-port** | **error** | **event** | **flow** | **fsm** | **mecid** | **rx** | **show** | **tx**]

no debug mecid [**all** | **cascade-port** | **error** | **event** | **flow** | **fsm** | **mecid** | **rx** | **show** | **tx**]

Parameters

all
Generates all debugging information related to ME-CID.

cascade-port
Enables debugging for a specific cascade port.

error
Displays ME-CID errors.

event
Displays ME-CID events.

flow
Displays ME-CID control flow.

fsm
Displays ME-CID FSM events.

mecid
Enables debugging for a specific ME-CID manager.

rx
Displays the ME-CID packets received from a Port Extender (PE).

show
Displays debugging information enabled for ME-CID.

tx
Displays the ME-CID packets sent to a Port Extender (PE).

Modes

Privileged EXEC mode

Examples

```
device# debug mecid all
9:9:28 - MECID_FSM: mecid 16360, FSM: DELETE_AW - > delete
9:9:28 - MECID_RX: Received E-Channel Register Response from PE 18 for ECID: 16360(Msg Id: 436), ECIDs
waiting for response : 24
9:9:28 - MECID_RX: Received E-Channel Register Response from PE 18 for ECID: 16331(Msg Id: 437), ECIDs
waiting for response : 23
9:9:28 - MECID_RX: Received E-Channel Register Response from PE 18 for ECID: 16324(Msg Id: 438), ECIDs
waiting for response : 22
9:9:28 - MECID_FSM: mecid 16346, FSM: DELETE_AW - > delete
9:9:28 - MECID_RX: Received E-Channel Register Response from PE 18 for ECID: 16346(Msg Id: 439), ECIDs
waiting for response : 21
9:9:28 - MECID_FSM: mecid 16358, FSM: DELETE_AW - > delete
9:9:28 - MECID_FSM: mecid 16360, FSM: DELETE_AW - > delete
9:9:27 - MECID_RX: Received E-Channel Register Response from PE 18 for ECID: 16347(Msg Id: 435), ECIDs
waiting for response : 0
9:9:28 - MECID_TX: PE 18 tx timer scheduled
stack: 1044264c 10a48824 10cf1120 10a48d60 10cf3f20 10cf4434 10d000fc 10a48ca0 10b94550 11ee536c
11f2b490
 Tx Count: 1
 Sending port array TLV to unit 18 (MsgId: 436)
    ECID: 16360, Number of Ports: 1
           1. Port: e18/1/3, Action: DELETE
.
.
.
(output truncated)
```

debug mld-snoop add-del-oif all

Displays information about the addition or deletion of all the OIFs that are Multicast Listener Discovery (MLD) snooping-enabled.

Syntax

debug mld-snoop add-del-oif all

no debug mld-snoop add-del-oif all

Modes

Privileged EXEC mode

Examples

```
device# debug mld-snoop add-del-oif all
mldsnoop add-del-oif all enabled
device# Del e1/1/23 from (0x0 0x230005) vlan 130
Del e1/1/23 from (0x0 0x230004) vlan 130
Del e1/1/23 from (0x0 0x230003) vlan 130
Del e1/1/23 from (0x0 0x230002) vlan 130
Del e1/1/23 from (0x0 0x230001) vlan 130
Add e1/1/23 to (0x0 0x230001) vlan 130
Add e1/1/23 to (0x0 0x230002) vlan 130
Add e1/1/23 to (0x0 0x230003) vlan 130
Add e1/1/23 to (0x0 0x230004) vlan 130
Add e1/1/23 to (0x0 0x230005) vlan 130
```

debug mld-snoop clear

Clears all the MLD snooping debug settings.

Syntax

debug mld-snoop clear

no debug mld-snoop clear

Modes

Privileged EXEC mode

Examples

```
device# debug mld-snoop clear
```

debug mld-snoop error

Displays the MLD snooping multicast error messages.

Syntax

debug mld-snoop error

no debug mld-snoop error

Modes

Privileged EXEC mode

Examples

```
device# debug mld-snoop error
monitor mldsnoop error
device# MLD: Error : Ignoring MLD version 2 Report pkt due to version mismatch ,
pkt S=fe80::1, on VL130 (phy e1/1/2), mld_size=28
MLD: Error : Ignoring MLD version 2 Report pkt due to version mismatch , pkt
S=fe80::1, on VL130 (phy e1/1/2), mld_size=28
MLD: Error : Ignoring MLD version 2 Report pkt due to version mismatch , pkt
S=fe80::1, on VL130 (phy e1/1/2), mld_size=28
MLD: Error : Ignoring MLD version 2 Report pkt due to version mismatch , pkt
S=fe80::1, on VL130 (phy e1/1/2), mld_size=28
MLD: Error : Ignoring MLD version 2 Report pkt due to version mismatch , pkt
S=fe80::1, on VL130 (phy e1/1/2), mld_size=28
```

debug mld-snoop group

Displays the MLD snooping multicast group information.

Syntax

debug mld-snoop group*group_address*

no debug mld-snoop group*group_address*

Parameters

group_address

Specifies the address of the MLD snoop multicast group.

Modes

Privileged EXEC mode

Examples

```
device# debug mld-snoop group 2001:DB8::23:1
source fe80::1
phy-port eth 1/1/23
vlan 130
MLD send Query(t=130) V1, s=fe80::224:38ff:fe76:4bc0 :: to VL130(all) rsp=10000
mld=24B, pkt=86B
MLD: rcvd Leave(ty=132) g=2001:DB8::23:1 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=24
MLD: rcvd Leave(ty=132) g=2001:DB8::23:2 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=24
MLD: rcvd Leave(ty=132) g=2001:DB8::23:3 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=24
MLD: rcvd Leave(ty=132) g=2001:DB8::23:4 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=24
MLD: rcvd Leave(ty=132) g=2001:DB8::23:5 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=24
MLD: rcvd Report-V1(ty=131) g=2001:DB8::23:2 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=24
MLD: rcvd Report-V1(ty=131) g=2001:DB8::23:3 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=24
MLD: rcvd Report-V1(ty=131) g=2001:DB8::23:4 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=24
MLD: rcvd Report-V1(ty=131) g=2001:DB8::23:5 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=24
MLD: rcvd Report-V1(ty=131) g=2001:DB8::23:5 resp=0, pkt S=fe80::1, on VL130 (phy
e1/1/23), mld_size=2
```

debug mld-snoop mcache-group

Displays MLD snoop debugging information related to mcache activity for the specified group address.

Syntax

debug mld-snoop mcache-group*group_address*

no debug mld-snoop mcache-group *group_address*

Parameters

group_address

Specifies the 32-bit address of the MLD snoop multicast group.

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug mld-snoop mcache-group 230001
device(config)# Del e1/1/23 from (0x0 0x230001) vlan 130
device(config)# Add e1/1/23 to (0x0 0x230001) vlan 130
```

debug mld-snoop packet

Displays debugging information related to the MLD snoop packets.

Syntax

debug mld-snoop packet*source_address group_address*

no debug mld-snoop packet *source_address group_address*

Parameters

source_address

Specifies the 32-bit source address of the MLD snoop packet.

group_address

Specifies the address of the MLD snoop multicast group.

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug mld-snoop packet 3 230001
debug mldsnoop packet (0x3 0x230001)
// dm raw: RX [a0a]2322::3 ->ff1e::23:1
port: 1/1/1
rtr_l2mcast_fwd_data (pkts:2), (0x3 0x230001), from e1/1/1 vlan 130, has fwd_entry
rtr_l2mcast_fwd_data (pkts:1), (0x3 0x230001), from e1/1/1 vlan 130, clear
hw_aging flag
```

debug mld-snoop show

Displays all the MLD snooping debug settings.

Syntax

debug mld-snoop show

no debug mld-snoop show

Modes

Privileged EXEC mode

Examples

```
device# debug mld-snoop show
debug mldsnoop vlan 100 is enabled
```

debug mld-snoop timer

Displays the MLD snooping related timer events.

Syntax

debug mld-snoop timer

no debug mld-snoop timer

Modes

Privileged EXEC mode

Examples

```
device# debug mld-snoop timer
device# mld timer, VL130(e1/1/2) change V3 client age out
```

debug mstp bpdu

Monitors Multiple Spanning Tree Protocol (MSTP) Bridge Packet Data Units (BPDUs).

Syntax

debug mstp bpdu

no debug mstp bpdu

Modes

Privileged EXEC mode

Usage Guidelines

Use this command to record and display information in conjunction with the **debug mstp enable** and **debug mstp events** commands.

Examples

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

```
device# debug mstp bpdu
MSTP Bpdu debugging ON
device# debug mstp enable
device# 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

Displays MSTP state machine events.

Syntax

debug mstp events

no debug mstp events

Modes

Privileged EXEC mode

Usage Guidelines

Use this command to monitor any MSTP event that takes place.

Examples

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

```
device# debug mstp events
MSTP Event debugging ON
device# debug mstp enable
device# 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, output similar to the following is displayed.

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

debug mstp level

Monitors MSTP level.

Syntax

debug mstp level *decimal*

no debug mstp level *decimal*

Parameters

decimal

Specifies the level of MSTP.

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug mstp level 2
Configuration :
device# [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, output similar to the following is displayed.

```
device# debug mstp level 3
device# [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

Displays information for a specific MSTP instance.

Syntax

debug mstp msti *decimal*

no debug mstp msti *decimal*

Parameters

decimal

Specifies the following values:
Value 0 for the Common and Internal Spanning Tree (CIST)
Value from 1 through 4094 for the Multiple Spanning Tree Instance (MSTI).

Modes

Privileged EXEC mode

Examples

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

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

```
device#debug mstp msti 2
MSTP debugging turned on for instances 2 ,0
device# debug mstp enable
device# debug mstp events
MSTP Event debugging ON
device# 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

Displays the hardware level of the port on which the MSTP is running.

Syntax

debug mstp port-level *decimal*

no debug mstp port-level *decimal*

Parameters

decimal

Specifies the following values:
Value 0 for the Common and Internal Spanning Tree (CIST)
Value from 1 through 4094 for the Multiple Spanning Tree Instance (MSTI).

Modes

Privileged EXEC mode

Usage Guidelines

Use this command to determine the port-level information.

Examples

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

debug mstp show

Displays the currently enabled MSTP debug parameters.

Syntax

debug mstp show

no debug mstp show

Modes

Privileged EXEC mode

Examples

```
device#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
```

debug mstp state

Displays information about the MSTP port state events.

Syntax

debug mstp state

no debug mstp state

Modes

Privileged EXEC mode

Examples

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

debug mstp verbose

Displays the MSTP debug information in the verbose mode.

Syntax

debug mstp verbose

no debug mstp verbose

Modes

Privileged EXEC mode

Examples

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

debug mvrp

Enables Multiple VLAN Registration Protocol (MVRP) debugging.

Syntax

debug mvrp [**all** | **cli** | **config** | **db-event** | **error-event** | **ethernet** *unit/slot/port* | **event** | **itc** | **lag** *lag-id* | **pdu** { **err** | **rx** | **tx** } | **reset** | **rx-event** | **show** | **sm-event** | **timer** | **tx-event** | **verbose**]

no debug mvrp [**all** | **cli** | **config** | **db-event** | **error-event** | **ethernet** *unit/slot/port* | **event** | **itc** | **lag** *lag-id* | **pdu** { **err** | **rx** | **tx** } | **reset** | **rx-event** | **show** | **sm-event** | **timer** | **tx-event** | **verbose**]

Parameters

all
Enables all attributes and for all ports.

cli
Enables MVRP CLI debugging.

config
Enables MVRP configuration debugging.

db-event
Enables MVRP database event debugging.

error-event
Enables MVRP error event debugging.

ethernet *unit/slot/port*
Enables MVRP port debugging.

event
Enables MVRP event debugging.

itc
Enables MVRP ITC debugging.

lag *lag-id*
Enables MVRP LAG port debugging.

pdu
Enables MVRPDU message debugging.

err
Enables MVRPDU error message debugging.

rx
Enables MVRPDU RX message debugging.

tx
Enables MVRPDU TX message debugging.

reset
Resets all MVRP debugging parameters to the default.

rx-event
Enables MVRP Rx-Event debugging.

show
Displays current MVRP debug parameters.

sm-event
Enables MVRP State-machine event debugging.

timer
Enables MVRP timer debugging.

tx-event
Enables MVRP TX event debugging.

verbose
Enables MVRP verbose debugging mode.

Modes

Privileged EXEC mode

Examples

The following example sets debugging on the MVRP CLI.

```
device# debug mvrp cli
MVRP CLI debugging ON
device# debug mvrp
```

The following example displays current MVRP debug parameters.

```
device# debug mvrp show

MVRP Debug Parameters
---------------------
MVRP ALL debugging is ON [Mode: Brief]
 Event: ON
 PDU Tx: OFF
 PDU Rx: OFF
 PDU Error: OFF
 Timer: OFF
 CLI: ON
 Config: ON
 ITC: OFF
 Rx-Event: OFF
 Tx-Event: OFF
 Db-Event: OFF
 Error-Event: OFF
 State-machine Event: OFF
```

History

Release version	Command history
08.0.90	This command was introduced.

debug packet-capture

Displays information about packet-capture activity.

Syntax

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

Parameters

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

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.

Modes

Privileged EXEC mode

debug packet-capture filter

Enables the filter option for the raw packets.

Syntax

debug packet-capture filter *filter_index filter_options*

Parameters

filter_index

Specifies the filter number. The decimal value ranges from 1 through 20.

filter_options

Specifies the filter option.

Modes

Privileged EXEC mode

Usage Guidelines

There are 36 filter options that can be configured within a single filter.

- all—Matches all packets
- arp—Matches an ARP request or response
- broadcast-mac—Matches the destination broadcast MAC address (0000.00FF.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 with 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 BPD
- 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

Examples

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

debug packet-capture filter none

Removes all the filters that are configured.

Syntax

debug packet-capture filter none

Modes

Privileged EXEC mode

Examples

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

debug packet-capture filter show

Displays the filter information for the particular filter index..

Syntax

debug packet-capture filter show [**all** | *decimal*]

Parameters

decimal

Specifies the number of the packet captured for filter.

Modes

Privileged EXEC mode

Examples

Execute the following command to display the complete filter information.

```
device# 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.

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

debug packet-capture mode

Displays the format of the packets to be captured for debugging information.

Syntax

debug packet-capture mode [**brief** | **no-display** | **normal** | **pcap-fmt** { **default** | *decimal* }]

Parameters

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.

Modes

Privileged EXEC mode

debug port hw-state

Monitors the hardware status of a port.

Syntax

debug port hw-state

no debug port hw-state

Modes

Privileged EXEC mode

Usage Guidelines

Use this command to enable or disable port debugging in the hardware state.

Examples

```
device# 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.

```
device(config)# interface ethernet 1/1/31
device(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
device(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.

```
device(config-if-e1000-1/1/32)# interface ethernet 1/1/31
device(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
device(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

Monitors a specific physical port.

Syntax

debug port port *stackid/slot/port*

Parameters

stackid/slot/port

Identifies the specific interface (port), by device, slot, and port number in the format shown.

Modes

Privileged EXEC mode

Global configuration mode

Usage Guidelines

debug port up-downdebug port hw-state

Examples

```
device# 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.

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

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

```
device(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.

```
device(config-if-e1000-1/1/2)# enable
device(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** command 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, output similar to the following example is displayed.

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

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

```
device(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.

```
device(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
device(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

Monitors all 10 Gigabit ports in the Ruckus FastIron devices.

Syntax

debug port ten-gig

Modes

Privileged EXEC mode

Global configuration mode

Usage Guidelines

Use this command in conjunction with the **debug port hw-state** command.

Examples

```
device# debug port ten-gig
Topology: Port 2/3/1 is the 10 gig port which is Up and forwarding on stack.
device# debug port ten-gig
device# debug port hw-state
hw-state monitor hw_state change
device# debug port hw-state
```

If port 2/3/1 is disabled, an output similar to the following is displayed.

```
device(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 2/3/1 is enabled, an output similar to the following is displayed.

```
device(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
device(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

Monitors the status of the ports.

Syntax

debug port up-down *decimal*

no debug port up-down *decimal*

Parameters

decimal

Specifies the status of the port.

Modes

Privileged EXEC mode

Global configuration mode

Usage Guidelines

This command disables or enables a port to get output information of the specified port. The port status up, down, and up/down are indicated by 1, 2, and 3 respectively.

Examples

```
device# debug port up-down 1
Monitor port up
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.

```
device(config)# interface ethernet 1/1/31
device(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
device(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.

```
device(config-if-e1000-1/1/31)# enable
device(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
```

History

Release version	Command history
	This command was introduced.
	This command was modified to...

debug port vlan

Monitors a specific VLAN.

Syntax

debug port vlan *decimal*

no debug port vlan *decimal*

Parameters

decimal

Specifies the number of the VLAN.

Modes

Privileged EXEC mode

Global configuration mode

Usage Guidelines

debug port up-downdebug port port

Examples

```
device# debug port vlan 1
monitor vlan 1
Topology: Port 1/1/31 is connected to port 1/1/32.
device# debug port vlan 2
monitor vlan 2
device# debug port up-down
up-down monitor port up/down event. 1: up, 2: down, 3: up/down
device# 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.

```
device(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
device(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.

```
device(config-if-e1000-1/1/31)# enable
device(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
```

debug pp-bum-trunk-hash

Traces and displays the output port through which a given packet can be sent out in a trunk for a broadcast, unknown-unicast, and multicast (BUM) flow.

Syntax

debug pp-bum-trunk-hash *ingress_port sw_trunk_id dmac smac*

ipv4 *dst_ipv4 src_ipv4* [*dst_tcp* | *udp_port*] [*src_tcp* | *udp_port*] *vlan vidx*

ipv6 *flow_label dst_ipv6 src_ipv6* [*dst_tcp* | *udp_port*] [*src_tcp* | *udp_port*] *vlan vidx*

no debug pp-bum-trunk-hash

Parameters

ingress_port
: Specifies the ingress port number.

sw_trunk_id
: Specifies the software trunk ID.

dmac
: Specifies the destination MAC address.

smac
: Specifies the source MAC address.

ipv4
: Generates debugging information related to IPv4 distribution for a BUM flow.

ipv6
: Generates debugging information related to IPv6 distribution for a BUM flow.
The following variables are supported with the ipv4 and ipv6 options.

dst_ipv4
: Specifies the destination IPv4 address.

src_ipv4
: Specifies the source IPv4 address.

dst_tcp | *udp_port*
: Specifies the destination TCP or UDP port number.

src_tcp | *udp_port*
: Specifies the source TCP or UDP port number.

vlan
: Specifies the VLAN ID.

vidx
: Specifies the multicast ID.

flow_label
: Specifies the flow label in the IPv6 header.

dst_ipv6
: Specifies the destination IPv6 address.

src_ipv6
: Specifies the source IPv6 address.

Modes

Privileged EXEC mode

Examples

For the IPv4 BUM flow, the command output resembles the following example.

```
device# debug pp-bum-trunk-hash 1/1/1 3 0000.00aa.aaaa 0000.00bb.1111 ipv4
10.1.1.1 10.1.1.2 10 10 1 100
Designated Trunk Port = 1/1/5
```

For the IPv6 BUM flow, the command output resembles the following example.

```
device# debug pp-bum-trunk-hash 1/1/11 3 0000.00aa.aaaa 0000.00bb.1111 ipv6 128
2001:DB8::1:1 2001:DB8::1:1 10 10 1 100
Designated Trunk Port = 1/1/4
```

For the non-IP BUM flow, the command output resembles the following example.

```
device# debug pp-bum-trunk-hash 1/1/1 3 0000.00aa.aaaa 0000.00bb.1111 non-ip
Designated Trunk Port = 1/1/5
```

debug pp-trunk-hash

Traces and displays the output port through which a given packet can be sent out in a trunk.

Syntax

debug pp-trunk-hash *trunk_port*

unicast-distribution ip *dmac smac* [*dst_ipv4 src_ipv4 dst_tcp* | *udp_port src_tcp* | *udp_port* | *dst_ipv6 src_ipv6 dst_tcp* | *udp_port src_tcp* | *udp_port*]

unicast-distribution non-ip*dmac smac*

no debug pp-trunk-hash

Parameters

trunk_port
Specifies the trunk member port number.

unicast-distribution
Generates debugging information related to unicast distribution.

ip *dmac smac*
Generates debugging information related to unicast IPv4 and IPv6 distribution for the specified destination MAC address and source MAC address. The following variables are supported with this option.

dst_ipv4
Specifies the destination IPv4 address.

src_ipv4
Specifies the source IPv4 address.

dst_tcp | *udp_port*
Specifies the destination TCP or UDP port number.

src_tcp | *udp_port*
Specifies the source TCP or UDP port number.

dst_ipv6
Specifies the destination IPv6 address.

src_ipv6
Specifies the source IPv6 address.

non-ip *dmac smac*
Generates debugging information related to unicast non-IP distribution for the specified destination MAC address and source MAC address.

Modes

Privileged EXEC mode

Usage Guidelines

The debug pp-trunk-hash trunk_port command is supported only on Ruckus ICX devices.

Examples

For the unicast IPv4 distribution, the command output resembles the following example.

```
device# debug pp-trunk-hash 1/1/3 unicast-distribution ip 0000.0082.ba04
0000.00c9.5680 10.10.10.2 10.10.10.1 10 10
trunk hashed port: 1/1/2
```

For the unicast IPv6 distribution, the command output resembles the following example.

```
device# debug pp-trunk-hash 1/1/3 unicast-distribution ip 0000.0082.ba04
0000.00c9.5680 2001:DB8::100:10 2001:DB8::10:19 10 17
trunk hashed port: 1/1/1
```

For the unicast non-IP distribution, the command output resembles the following example.

```
device# debug pp-trunk-hash 1/1/3 unicast-distribution non-ip 0000.0082.ba04
0000.00c9.5680
trunk hashed port: 1/1/9
```

Debug Commands Q - Z

debug rip database

Displays Routing Information Protocol (RIP) database events.

Syntax

debug rip database

no debug rip database

Modes

Privileged EXEC mode

Examples

```
device# debug rip database
device(config-vif-11)# RIP(default-vrf): (v2) process response packet
header: type:RESPONSE PACKET, version:2
RIP(default-vrf): refresh 10.1.2.0/24 metric 3 from 10.5.5.2 ve 11
RIP(default-vrf): existing route metric 2 from 10.4.4.1 ve 12
RIP(default-vrf): refresh 10.24.2.0/24 metric 4 from 10.5.5.2 ve 11
RIP(default-vrf): existing route metric 4 from 10.5.5.2 ve 11
RIP(default-vrf): (v2) process response packet
header: type:RESPONSE PACKET, version:2
RIP(default-vrf): refresh 10.24.2.0/24 metric 4 from 10.4.4.2 ve 12
RIP(default-vrf): existing route metric 4 from 10.5.5.2 ve 11
```

debug rip events

Displays RIP events.

Syntax

debug rip events

no debug rip events

Modes

Privileged EXEC mode

Global configuration mode

Examples

```
device# debug rip events
device(config-vif-11)# RIPng: update timer expired
clear ipv routeRIPng: triggered update
RIPng: garbage prefix 2001:DB8::/64 timer 1, metric 0, tag 0
from :: on interface NULL
RIPng: garbage prefix 2001:DB8::/64 timer 1, metric 0, tag 0
from :: on interface NULL
RIPng: Adding local connected route 2001:DB8::1/64 on interface v11
RIPng: Adding local connected route 2001:DB8::1/64 on interface v12
RIPng: update timer expired
RIPng: Redistribute add route 2001:DB8::/64, type CONNECTED (1/0)
RIPng: Redistribute add route 2001:DB8::/64, type CONNECTED (1/0)
```

debug sflow problems

Enables debugging of the internal sFlow.

Syntax

debug sflow problems

no debug sflow problems

Modes

Privileged EXEC mode

Usage Guidelines

sFlow is a system for observing traffic flow patterns and quantities within and among a set of Ruckus devices.

The no form of the command disables debugging of the internal sFlow.

Examples

```
device# debug sflow problems
sflow: problem debugging is on
```

debug span all_802_1d_events

Monitors information about all the events, timers, and packets on a specific VLAN.

Syntax

debug span all_802_1d_events *decimal*

no debug span all_802_1d_events *decimal*

Parameters

variable

Specifies the number of the VLAN.

Modes

Privileged EXEC mode

Examples

```
device# debug span all_802_1d_events vlan 201
STP  Enabling All events Debugging for VLAN 201
7750Stk-Seth#STP[898211]: Received Config BPDU - VLAN 201 -port 54/1/21
port_state_selection(T=898211,vlan=201) -->
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 1/1/1(0) VLAN 201
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 2/1/1(256) VLAN 201
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 3/1/1(512) VLAN 201
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 51/1/1(12800) VLAN 201
STP:port_state_selection PORT 51/1/21 vlan 201 transitions to BLOCKING
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 52/1/1(13056) VLAN 201
STP:port_state_selection PORT 52/1/21 vlan 201 transitions to BLOCKING
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 53/1/1(13312) VLAN 201
STP:port_state_selection PORT 53/1/21 vlan 201 transitions to BLOCKING
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 54/1/1(13568) VLAN 201
port_state_selection root port 54/1/21
STP[898211]: Received Config BPDU - VLAN 201 -port 51/1/21 port_state_selection(T=898211,vlan=201) -->
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 1/1/1(0) VLAN 201
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 2/1/1(256) VLAN 201
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 3/1/1(512) VLAN 201
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 51/1/1(12800) VLAN 201
STP:port_state_selection PORT 51/1/21 vlan 201 transitions to BLOCKING
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 52/1/1(13056) VLAN 201
STP:port_state_selection PORT 52/1/21 vlan 201 transitions to BLOCKING
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 53/1/1(13312) VLAN 201
STP:port_state_selection PORT 53/1/21 vlan 201 transitions to BLOCKING
STP:port_state_selection PORT transitions to DESIGNATED_FORWARD state , port 54/1/1(13568) VLAN 201
port_state_selection root port 54/1/21
```

debug span config

Monitors information about STP Bridge Protocol Data Unit (BPDU) configuration on a specific VLAN.

Syntax

debug span config vlan *decimal*]

no debug span config vlan *decimal*]

Parameters

decimal

Specifies the number of the VLAN.

Modes

Privileged EXEC mode

Examples

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

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

device# 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 Ruckus ICX is disabled, output similar to the following is displayed.

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

debug span timers

Displays information about the specific STP timer events.

Syntax

debug span timers vlan *decimal*

no debug span timers vlan *decimal*

Parameters

decimal

Specifies the number of the VLAN.

Modes

Privileged EXEC mode

Examples

If the STP timer event on VLAN 2 of the Ruckus FastIron device is enabled, output similar to the following is displayed.

```
device# 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 Ruckus FastIron device is disabled, output similar to the following is displayed.

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

debug stack pe control

Displays important SPX events in real time. This command is available on Control Bridge (CB) and Port Extender (PE).

Syntax

debug stack pe control

no debug stack pe control

Modes

Privileged EXEC mode

Examples

```
device# debug stack pe control 2
!!! Temperature is over warning level on stack unit 2 !!!
Debug: Jan 1 08:56:41 T=8h56m23.6: spx-port 2/1/5 goes down
Debug: Jan 1 08:56:41 T=8h56m23.6: p_notify: 2/1/5 down, UP=1, ary(1) timer,
Debug: Jan 1 08:56:41 T=8h56m23.7: p_notify: 2/1/5 down, UP=1, same = curr_up, abort
Debug: Jan 1 08:56:42 T=8h56m24.6: cb_pe_port_state_notify_cb, ind=1, from_timer=1
Debug: Jan 1 08:56:42 T=8h56m24.6: CB marks dirty bit 2 to S u3 st=5 stack: 10dd1f64 10dd39ec 10dd4144
10dd4308 10dd46f8 10dd7ba8 10dd7f1c 10dd848c 104bf3e8 1078071c 11680b54 11680eec 116823a0 116913d4
116922f4 11198bdc 106654d0

Debug: Jan 1 08:56:42 T=8h56m24.9: rem_st[18] Ready -> None:0
Debug: Jan 1 08:56:42 T=8h56m24.9: Active unit 2 deletes u18 but keeps its static config.
Debug: Jan 1 08:56:42 delete reason: Port 2/1/5 is down.
```

debug stack pe mac

Optional command to select the printing of "debug stack pe topo" of a particular Port Extender (PE) with this MAC.

Syntax

debug stack pe mac

no debug stack pe mac

Modes

Privileged EXEC mode

Examples

The user can key in the lowest 4 digits of the PE MAC address to limit the **debug stack pe topo**. The **debug stack pe mac** command is effective only on CB. When this command is specified, the Control Bridge (CB) only displays the joining LLDP packets of this specific PE. **debug stack pe topo** must be enabled before using this command.

```
device# debug stack pe mac 77b0
monitor pe topo with lowest mac=77b0
ICX7750-20Q Router#Debug: Jan 2 01:40:36 T=1d1h40m19.0: LLDP join: fr u18 40 to 41, nbr=0, p_cb=2/1/5,
V21 1, 224B, M=51444D A0A0A0A, me=cc4e.248b.77b0 CB-m=748e.f8f9.6300 0, tp=24 22 b, id=19 0 0 sug=0,
op=1 cl=0, D0=2/1 2/2 D1=2/3 , cb-mac=cb pe_me id=19, has p_me u19 i=1 D=0, has pe_up u18 i_up=1 dir=1,
T_fr 1, T_to 1, age=0, , add link 1140 - 1241
Debug: Jan 2 01:40:36 res 2, cc4e.248b.77b0 new_id 0 pe_id 19
```

debug stack pe topo

Indicates Port Extender (PE) join requests are being sent to and received on Control Bridge (CB).

Syntax

debug stack pe topo

no debug stack pe topo

Modes

Privileged EXEC mode

Examples

```
device# debug stack pe topo 3

Debug: Jan 2 01:39:34 T=1d1h39m16.9: LLDP join: fr u2 4 to c0, nbr=0, p_cb=2/1/5, V21 1, 224B, M=53F450
A0A000A, me=cc4e.246c.f190 CB-m=748e.f8f9.6300 0, tp=27 25 b, id=18 0 18 sug=0, op=1 cl=0, D0=2/1 2/2
D1=4/1 , cb-mac=cb pe_me id=18, has p_me u18 i=0 D=0, has pe_cb u2 i_cb=0, pe_up=cb, T_fr 1, T_to 1,
age=0, , add link 104 - 11c0
Debug: Jan 2 01:39:34 res 2, cc4e.246c.f190 new_id 0 pe_id 18

Debug: Jan 2 01:39:36 T=1d1h39m19.0: LLDP join: fr u18 40 to 41, nbr=0, p_cb=2/1/5, V21 1, 224B,
M=51444D A0A0A0A, me=cc4e.248b.77b0 CB-m=748e.f8f9.6300 0, tp=24 22 b, id=19 0 0 sug=0, op=1 cl=0,
D0=2/1 2/2 D1=2/3 , cb-mac=cb pe_me id=19, has p_me u19 i=1 D=0, has pe_up u18 i_up=1 dir=1, T_fr 1,
T_to 1, age=0, , add link 1140 - 1241
Debug: Jan 2 01:39:36 res 2, cc4e.248b.77b0 new_id 0 pe_id 19
```

debug system campram

Traces Content Addressable Memory (CAM) or Parallel Random Access Machine (PRAM) operations.

Syntax

debug system campram

no debug system campram

Modes

Privileged EXEC mode

Examples

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

debug system optics

Activates optical monitor debugging.

Syntax

debug system optics

no debug system optics

Modes

Privileged EXEC mode

Usage Guidelines

Examples

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

debug system poll

Enables backplane polling.

Syntax

debug system poll

no debug system poll

Modes

Privileged EXEC mode

Usage Guidelines

Examples

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

debug web events

Enables web events debugging.

Syntax

debug web events

no debug web events

Modes

Privileged EXEC mode

Examples

```
device# debug web events
web: Events debugging is on
```

debug webauth timers

Enables debugging of web authentication timers.

Syntax

debug webauth timers

no debug webauth timers

Modes

Privileged EXEC mode

Examples

```
device# debug webauth timers
webauth: Timers debugging is on
```

debug webauth events

Enables debugging of web authentication events.

Syntax

debug webauth events

no debug webauth events

Modes

Privileged EXEC mode

Usage Guidelines

Examples

```
device# debug webauth events
webauth: Events debugging is on
```

show debug

Displays all the enabled debug functions.

Syntax

show debug

Modes

User EXEC mode

Examples

The following example shows that ACL log and IPv6 debugging are enabled, with the console as the output destination.

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

show tech-support

Displays the output of several show commands at once. The output from this command varies depending on the router configuration.

Syntax

show tech-support [**acl** | **cluster** | **cpu** | **license** | **l2** | **l3** | **memory** | **multicast** | **packet-loss** | **stack**]

no show tech-support [**acl** | **cluster** | **cpu** | **license** | **l2** | **l3** | **memory** | **multicast** | **packet-loss** | **stack**]

Parameters

acl
Generates system and debugging information specific to ACL configurations and counters.

cluster
Generates system and debugging information specific to cluster configurations.

cpu
Generates CPU-related information.

license
Generates license-related information.

l2
Generates system and debugging information specific to Layer 2 configurations.

l3
Generates system and debugging information specific to Layer 3 configurations.

memory
Generates memory-related information of the device.

multicast
Generates system and debugging information specific to Layer 2 and Layer 3 multicast configurations.

packet-loss
Generates packet statistics-related debugging information.

stack
Generates system and debugging information specific to stacking configurations.

Modes

Privileged EXEC mode

Usage Guidelines

The **show tech-support** command is useful when collecting a large amount of information about the Ruckus FastIron devices for troubleshooting purposes. The output of this command can be used by technical support representatives when a problem is reported.

The default output of the **show tech-support** command includes the following information:

- Header for all the show commands

- Running configuration
- Image version
- Port status
- Port counters
- Static and dynamic log buffers
- dm statistics
- Boot, monitor, and system
- Registers information
- Possible stack trace
- Active stack (if applicable)
- Last packet (Application Data)
- Possible data structure
- MCT cluster details
- License details
- Stacking information
- Dot1x
- DHCP snooping
- SSH
- System Health

The format of the **show tech-support** command output is modified to include a header and a footer by default for each of the **show tech-support** commands which gets called from the CLI to automatically parse the output for easier lookup.

The header contains the following information:

- BEGIN - Indicates a sub-command that will begin execution next.
- CONTEXT - Indicates in which context and session the sub-commands are executed.

  If more than one telnet session and console session for a device is accessed, then **show tech-support** command displays CONTEXT as Console#0 for console session and telnet#1 and telnet#2 and so on for telnet sessions.
- TIME STAMP - A time stamp, with millisecond granularity, helps to determine the time difference between separate runs of the same command.

  If NTP or local clock is not set in a device, then header displays Epoch time in the TIMESTAMP field. Epoch time is a universal time which starts from Jan 1, 1970. Therefore, for Linux platforms, the Epoch time format is 00:00:00.000 GMT+00 Thu Jan 01 1970. For non-Linux platforms, the Epoch time format is Jan 01 00:00:00.000.
- HW/SW INFO - Indicates the hardware and software version information of the device.

The footer contains the following information:

- TIME STAMP - A time stamp, with millisecond granularity, helps to determine the time difference between separate runs of the same command.

  If NTP or local clock is not set in a device, then header displays Epoch time in the TIMESTAMP field. Epoch time is a universal time which starts from Jan 1, 1970. Therefore, for Linux platforms, the Epoch time format is 00:00:00.000 GMT+00 Thu Jan 01 1970. For non-Linux platforms, the Epoch time format is Jan 01 00:00:00.000.
- END - Indicates the sub-command which has completed execution.
- TIME TAKEN - Indicates the total time taken in nanoseconds for the command execution.

Examples

The following example shows the truncated output of the **show tech-support** command.

```
device# show tech-support
================================================================================
BEGIN : show tech-support
CONTEXT : TELNET#1 : show tech-support
TIME STAMP : 01:47:54.763 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
================================================================================
BEGIN : show running-config
CONTEXT : TELNET#1 : CONFIG
TIME STAMP : 01:47:54.763 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Current configuration:
!
ver 08.0.40b1T213
!
stack unit 1
  module 1 icx7250-24-port-management-module
  module 2 icx7250-sfp-plus-8port-80g-module
  priority 200
  default-ports 1/2/5 1/2/7
  stack-trunk 1/2/5 to 1/2/6
  stack-trunk 1/2/7 to 1/2/8
  stack-port 1/2/5 1/2/7
...
================================================================================
TIME STAMP : 01:47:55.061 Pacific Wed Dec 09 2015
END : show running-config
TIME TAKEN : 148914220 ticks (148914220 nsec)
================================================================================
================================================================================
BEGIN : show version
CONTEXT : TELNET#1 : HW INFO
TIME STAMP : 01:47:55.061 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
  Copyright (c) 1996-2015 Ruckus Wireless, Inc. All rights reserved.
    UNIT 1: compiled on Dec  3 2015 at 16:12:49 labeled as SPR08040b1
      (22418510 bytes) from Primary spr08040b1.bin
        SW: Version 08.0.40b1T213
      Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215 (spz10106b002)
       Compiled on Thu Sep 10 06:30:24 2015
    UNIT 2: compiled on Dec  3 2015 at 16:12:49 labeled as SPR08040b1
      (22418510 bytes) from Primary spr08040b1.bin
        SW: Version 08.0.40b1T213
      Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215 (spz10106b002)

  HW: Stackable ICX7250-24
==============================================================================
UNIT 1: SL 1: ICX7250-24 24-port Management Module
      Serial  #:DUN3245K00N
      License: ICX7250_L3_SOFT_PACKAGE   (LID: fwpIHJKmFFp)
      License Compliance: ICX7250-PREM-LIC-SW is Non-Compliant
      P-ASIC  0: type B344, rev 01  Chip BCM56344_A0
==============================================================================
UNIT 1: SL 2: ICX7250-SFP-Plus 8-port 80G Module
==============================================================================
UNIT 2: SL 1: ICX7250-24 24-port Management Module
      Serial  #:DUN3245K01W
      License: ICX7250_L3_SOFT_PACKAGE   (LID: fwpIHJKmFGy)
      License Compliance: ICX7250-PREM-LIC-SW is Non-Compliant
==============================================================================
UNIT 2: SL 2: ICX7250-SFP-Plus 8-port 80G Module
==============================================================================
 1000 MHz ARM processor ARMv7 88 MHz bus
 8192 KB boot flash memory
```

```
 2048 MB code flash memory
 2048 MB DRAM
STACKID 1  system uptime is 1 day(s) 10 hour(s) 41 minute(s) 57 second(s)
STACKID 2  system uptime is 1 day(s) 10 hour(s) 41 minute(s) 53 second(s)
The system started at 15:14:06 Pacific Mon Dec 07 2015

 The system : started=warm start   reloaded=by "reload"
My stack unit ID = 1, bootup role = active
*** NOT FOR PRODUCTION ***

==========================================================================
TIME STAMP : 01:47:55.065 Pacific Wed Dec 09 2015
END : show version
TIME TAKEN : 2038801 ticks (2038801 nsec)
==========================================================================
==========================================================================
BEGIN : show interfaces brief
CONTEXT : TELNET#1 : PORT STATUS
TIME STAMP : 01:47:55.938 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
==========================================================================

Interface Information for all the ports :
Port       Link    State   Dupl Speed Trunk Tag Pvid Pri MAC             Name
1/1/1      Down    None    None None  None  No  4010 0   cc4e.24b4.88b0
1/1/2      Disable None    None None  None  No  4010 0   cc4e.24b4.88b1
1/1/3      Up      Forward Full 1G    None  Yes N/A  0   cc4e.24b4.88b2
1/1/4      Disable None    None None  None  No  4010 0   cc4e.24b4.88b3
1/1/5      Disable None    None None  None  No  4010 0   cc4e.24b4.88b4
==========================================================================
TIME STAMP : 01:47:55.962 Pacific Wed Dec 09 2015
END : show interfaces brief
TIME TAKEN : 12071127 ticks (12071127 nsec)
==========================================================================
==========================================================================
BEGIN : show statistics ethernet
CONTEXT : TELNET#1 : PACKET COUNTERS
TIME STAMP : 01:47:55.986 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
==========================================================================
Statistics Information for each port :
Port       Link    State   Dupl Speed Trunk Tag Pvid Pri MAC             Name
1/1/3      Up      Forward Full 1G    None  Yes N/A  0   cc4e.24b4.88b2

 Port 1/1/3 Counters:
         InOctets          52710812588           OutOctets          31386393616
           InPkts            623806726             OutPkts            365249013
  InBroadcastPkts                    0    OutBroadcastPkts                    0
  InMulticastPkts            623211850    OutMulticastPkts            365249013
    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         OutDiscards           3242924084
   InFlowCtrlPkts                    0     OutFlowCtrlPkts                    0
     InBitsPerSec                 2872       OutBitsPerSec                  160
     InPktsPerSec                    5       OutPktsPerSec                    0
    InUtilization                0.00%      OutUtilization                 0.00%
==========================================================================
TIME STAMP : 01:47:56.413 Pacific Wed Dec 09 2015
END : show statistics ethernet
TIME TAKEN : 213778306 ticks (213778306 nsec)
==========================================================================
==========================================================================
BEGIN : show logging
CONTEXT : TELNET#1 : STATIC/DYNAMIC LOG
TIME STAMP : 01:47:55.089 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
```

```
==========================================================================
Syslog logging: enabled ( 0 messages dropped, 1 flushes, 540 overruns)
    Buffer logging: level ACDMEINW, 1000 messages logged
    level code: A=alert C=critical D=debugging M=emergency E=error
                I=informational N=notification W=warning

Static Log Buffer:
Dec  7 23:06:21:I:System: Stack unit 1   PS 1, Internal Power supply  is up
Dec  2 18:27:47:A:System: Stack unit 1   PS 2, Standby Power supply  is down
Dec  7 15:06:44:I:System: Stack unit 2   PS 1, Internal Power supply  is up
Dec  7 15:06:44:A:System: Stack unit 2   PS 2, Standby Power supply  is down

Dynamic Log Buffer (1000 lines):
Dec  9 01:46:02:W:IGMP: [ Port 1/2/4 ] v1570. Query version mismatch. Received query version 2 from
157.0.0.151; Port version 3.
Dec  9 01:43:55:W:IGMP: [ Port 1/2/4 ] v1570. Query version mismatch. Received query version 2 from
157.0.0.151; Port version 3.
...
(output truncated)
```

You can disable the display of the header and footer for **show tech-support** commands by using the **supportsave info disable** command. If disabled, you can enable the display of the header and footer for **show tech-support** commands by using the **supportsave info enable** command.

The following sample output of the **show tech-support license** command shows the header and footer displayed.

```
device# supportsave info enable
device# show tech-support license
==============================================================================
BEGIN : show license
CONTEXT : CONSOLE#0 : LICENSE
TIME STAMP : 01:30:20.093 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7750-48C/SWR08040q078
==============================================================================
License Information
===================
License record empty
==============================================================================
TIME STAMP : 01:30:20.093 Pacific Wed Dec 09 2015
END : show license
TIME TAKEN : 1459 ticks (61278 nsec)
==============================================================================
```

show tech-support acl

Displays debugging information related to ACL configuration and counters.

Syntax

show tech-support acl

Modes

Privileged EXEC mode

Examples

```
device# show tech-support acl
================================================================================
BEGIN : show access-list all
CONTEXT : CONSOLE#0 : ACL CONFIG
TIME STAMP : 01:30:57.002 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7750-48C/SWR08040q078
================================================================================
ACL Config Information.
ipv6 access-list Pimv6-anycast-rp-set-vrf-DC-NMCT: 6 entries
 permit ipv6 host 121::121 any
 permit ipv6 host 50::50 any
 permit ipv6 host 51::51 any
 permit ipv6 host 122::122 any
 permit ipv6 host 150::150 any
 permit ipv6 host 151::151 any

Standard IP access list  Pim-anycast-rp-set-vrf-DC-NMCT : 6 entry
permit host 50.50.50.50
permit host 51.51.51.51
permit host 122.122.122.122
permit host 150.150.150.150
permit host 151.151.151.151
permit host 121.121.121.121
================================================================================
TIME STAMP : 01:30:57.003 Pacific Wed Dec 09 2015
END : show access-list all
TIME TAKEN : 4561 ticks (191562 nsec)
================================================================================
================================================================================
BEGIN : show acl-on-arp
CONTEXT : CONSOLE#0 : ARP ACL FILTERING
TIME STAMP : 01:30:57.003 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7750-48C/SWR08040q078
================================================================================
ACL-ON-ARP list information
Port        ACL ID  Filter Count
================================================================================
TIME STAMP : 01:30:57.003 Pacific Wed Dec 09 2015
END : show acl-on-arp
TIME TAKEN : 1920 ticks (80640 nsec)
================================================================================
================================================================================
BEGIN : show access-list accounting
CONTEXT : CONSOLE#0 : ACL ACCOUNTING INFO
TIME STAMP : 01:30:57.107 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7750-48C/SWR08040q078
================================================================================
ACL Accounting Information
================================================================================
TIME STAMP : 01:30:57.108 Pacific Wed Dec 09 2015
END : show access-list accounting
TIME TAKEN : 1464 ticks (61488 nsec)
================================================================================
```

show tech-support cluster

Collects and displays complete debugging information related to Multi-Chassis Trunking (MCT) cluster configuration.

Syntax

show tech-support packet-loss

Modes

Privileged EXEC mode

Usage Guidelines

The **show tech-support cluster** command output includes the output of the **show cluster** and the **show cluster ccp peer detail** commands. The **show tech-support cluster** command output displays the following information:

- Cluster configuration
- Spanning Tree Protocol (STP), if configured
- Rapid Spanning Tree Protocol (RSTP), if configured
- Peer details
- Cluster Communication Protocol (CCP)
- Last reason for CCP down
- Inter-Chassis Link (ICL)
- MCT client
- Transmission Control Protocol (TCP) connection

Examples

The following example displays sample output from the show tech-support cluster command.

```
device# show tech-support cluster
================================================================================
BEGIN : show running config cluster
CONTEXT : CONSOLE#0 : CLUSTER CONFIG
TIME STAMP : 20:21:18.142 GMT+00 Wed Apr 17 2002
HW/SW INFO : ICX7750-26Q/SWR08050b468
================================================================================

Cluster Information :
cluster s3 3
!
================================================================================
TIME STAMP : 20:21:18.142 GMT+00 Wed Apr 17 2002
END : show running config cluster
TIME TAKEN : 7813 ticks (328146 nsec)
================================================================================
================================================================================
BEGIN : show cluster <cluster id> <CR|span|802-1w>
CONTEXT : CONSOLE#0 : CLUSTER,STP,RSTP
TIME STAMP : 20:21:18.142 GMT+00 Wed Apr 17 2002
HW/SW INFO : ICX7750-26Q/SWR08050b468
================================================================================

Cluster s3 3
============
Rbridge Id: 0, Session Vlan: 0
Cluster State: Undeploy
Client Isolation Mode: Loose
Member Vlan Range:

L2 VLAN 5  are members of single spanning tree.

L2 VLAN 5  are members of single spanning tree.
================================================================================
TIME STAMP : 20:21:18.142 GMT+00 Wed Apr 17 2002
END : show cluster <cluster id> <CR|span|802-1w>
TIME TAKEN : 3052 ticks (128184 nsec)
================================================================================
================================================================================
BEGIN : show ccp peer detail
CONTEXT : CONSOLE#0 : CLUSTER CCP PEER DETAILS
TIME STAMP : 20:21:18.142 GMT+00 Wed Apr 17 2002
HW/SW INFO : ICX7750-26Q/SWR08050b468
================================================================================

 No Cluster Configured
================================================================================
TIME STAMP : 20:21:18.142 GMT+00 Wed Apr 17 2002
END : show ccp peer detail
TIME TAKEN : 367 ticks (15414 nsec)
================================================================================
```

History

Release version	Command history
Release 08.0.00a	The show tech-support command was enhanced to display MCT cluster configuration information.

show tech-support cpu

Displays debugging information related to CPU usage and utilization.

Syntax

show tech-support cpu

Modes

Privileged EXEC mode

Examples

```
device# show tech-support cpu
================================================================================
BEGIN : show cpu tasks
CONTEXT : CONSOLE#0 : CPU/TASK
TIME STAMP : 01:32:44.334 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7750-48F/SWR08040q078
================================================================================
CPU Usage Information
... Usage average for all tasks in the last 1 second ...
============================================================
Name                                    %

SigHdlrTsk                              0
OsTsk                                   0
TimerTsk                                0
FlashTsk                                0
MainTsk                                 0
MportPollTsk                            0
IntrTsk                                 0
stkKeepAlive                            0
keygen                                  0
itc                                     0
bcmDPC                                  0
bcmINTR                                 4
socdmadesc.0                            0
bcmCNTR.0                               0
bcmRX                                   2
bcmL2MOD.0                              0
scp                                     0
appl                                    80
snms                                    0
rtm                                     0
rtm6                                    0
rip                                     0
bgp                                     0
bgp_io                                  0
ospf                                    0
ospf_r_calc                             0
openflow_ofm                            0
openflow_opm                            0
mcast_fwd                               0
mcast                                   0
msdp                                    0
ripng                                   0
ospf6                                   0
ospf6_rt                                0
mcast6                                  0
ipsec                                   0
dhcp6                                   0
mecid                                   0
snmp                                    0
rmon                                    0
web                                     0
acl                                     0
spx                                     0
flexauth                                0
adm_tm                                  0
ntp                                     0
rconsole                                0
console                                 0
ospf_msg_task                           0
auxTsk                                  0
exUSBHotpluggerTsk                      0
bcmLINK.0                               5

CPU Utilization information.
appl-task pid 1054 tid 0x55363330 cpu usage 80%
console-task pid 1084 tid 0x55b5d330 cpu usage 0%
flash-task pid 1039 tid 0x48da1330 cpu usage 0%
```

```
sys-tmr-task pid 1038 tid 0x48d81330 cpu usage 0%
itc-task pid 1045 tid 0x48f41330 cpu usage 0%
loop cnt: 1658124015 1658223655 -> 99640
read cnt: 59419971 59420144 -> 173
loop rate = 99640/10 = 9964
rcode_old = 100 - (100*9964/11250) = 12
rcode_log2= 100-(100*log2(9964)/log2(11250))=1
1/100 busy, from 35127 sec ago

appl-task pid 1054 tid 0x55363330 cpu usage 80%
console-task pid 1084 tid 0x55b5d330 cpu usage 0%
flash-task pid 1039 tid 0x48da1330 cpu usage 0%
sys-tmr-task pid 1038 tid 0x48d81330 cpu usage 0%
itc-task pid 1045 tid 0x48f41330 cpu usage 0%
loop cnt: 1658124015 1658223655 -> 99640
read cnt: 59419971 59420144 -> 173
loop rate = 99640/10 = 9964
rcode_old = 100 - (100*9964/11250) = 12
rcode_log2= 100-(100*log2(9964)/log2(11250))=1
1/100 busy, from 0 sec ago

appl-task pid 1054 tid 0x55363330 cpu usage 80%
console-task pid 1084 tid 0x55b5d330 cpu usage 0%
flash-task pid 1039 tid 0x48da1330 cpu usage 0%
sys-tmr-task pid 1038 tid 0x48d81330 cpu usage 0%
itc-task pid 1045 tid 0x48f41330 cpu usage 0%
loop cnt: 1658124015 1658223655 -> 99640
read cnt: 59419971 59420144 -> 173
loop rate = 99640/10 = 9964
rcode_old = 100 - (100*9964/11250) = 12
rcode_log2= 100-(100*log2(9964)/log2(11250))=1
1/100 busy, from 0 sec ago

appl-task pid 1054 tid 0x55363330 cpu usage 80%
console-task pid 1084 tid 0x55b5d330 cpu usage 0%
flash-task pid 1039 tid 0x48da1330 cpu usage 0%
sys-tmr-task pid 1038 tid 0x48d81330 cpu usage 0%
itc-task pid 1045 tid 0x48f41330 cpu usage 0%
loop cnt: 1658124015 1658223655 -> 99640
read cnt: 59419971 59420144 -> 173
loop rate = 99640/10 = 9964
rcode_old = 100 - (100*9964/11250) = 12
rcode_log2= 100-(100*log2(9964)/log2(11250))=1
1/100 busy, from 0 sec ago

appl-task pid 1054 tid 0x55363330 cpu usage 80%
console-task pid 1084 tid 0x55b5d330 cpu usage 0%
flash-task pid 1039 tid 0x48da1330 cpu usage 0%
sys-tmr-task pid 1038 tid 0x48d81330 cpu usage 0%
itc-task pid 1045 tid 0x48f41330 cpu usage 0%
loop cnt: 1658124015 1658223655 -> 99640
read cnt: 59419971 59420144 -> 173
loop rate = 99640/10 = 9964
rcode_old = 100 - (100*9964/11250) = 12
rcode_log2= 100-(100*log2(9964)/log2(11250))=1
1/100 busy, from 0 sec ago
==============================================================================
TIME STAMP : 01:32:44.335 Pacific Wed Dec 09 2015
END : show cpu tasks
TIME TAKEN : 9270 ticks (389340 nsec)
==============================================================================
```

show tech-support l2

Displays debugging information related to Layer 2 configurations.

Syntax

show tech-support l2

Modes

Privileged EXEC mode

Usage Guidelines

This command displays the following debugging information related to Layer 2 configurations:

- Interface status
- Virtual Local Area Network (VLAN) configuration
- Private VLAN
- Spanning tree and 802.1W spanning tree
- Per VLAN Spanning Tree Plus (PVST+)
- Bridge Protocol Data Unit (BPDU) Guard and STP root protection
- VLAN topology group
- Link aggregation configuration
- Media Access Control (MAC) table
- Dot1x port security
- MAC security
- Metro Ring Protocol (MRP)
- Virtual Switch Redundancy Protocol (VSRP)
- Interface statistics

Examples

The following example shows the truncated output of the **show tech-support l2** command.

```
device# show tech-support l2
================================================================================
BEGIN : show version
CONTEXT : TELNET#1 : HW INFO
TIME STAMP : 01:37:44.217 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
  Copyright (c) 1996-2015 Ruckus Wireless, Inc. All rights reserved.
    UNIT 1: compiled on Dec  3 2015 at 16:12:49 labeled as SPR08040b1
      (22418510 bytes) from Primary spr08040b1.bin
        SW: Version 08.0.40b1T213
      Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215 (spz10106b002)
       Compiled on Thu Sep 10 06:30:24 2015
    UNIT 2: compiled on Dec  3 2015 at 16:12:49 labeled as SPR08040b1
      (22418510 bytes) from Primary spr08040b1.bin
        SW: Version 08.0.40b1T213
      Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215 (spz10106b002)

  HW: Stackable ICX7250-24
================================================================================
UNIT 1: SL 1: ICX7250-24 24-port Management Module
      Serial  #:DUN3245K00N
      License: ICX7250_L3_SOFT_PACKAGE   (LID: fwpIHJKmFFp)
      License Compliance: ICX7250-PREM-LIC-SW is Non-Compliant
      P-ASIC  0: type B344, rev 01  Chip BCM56344_A0
================================================================================
UNIT 1: SL 2: ICX7250-SFP-Plus 8-port 80G Module
================================================================================
UNIT 2: SL 1: ICX7250-24 24-port Management Module
      Serial  #:DUN3245K01W
      License: ICX7250_L3_SOFT_PACKAGE   (LID: fwpIHJKmFGy)
      License Compliance: ICX7250-PREM-LIC-SW is Non-Compliant
================================================================================
UNIT 2: SL 2: ICX7250-SFP-Plus 8-port 80G Module
================================================================================
 1000 MHz ARM processor ARMv7 88 MHz bus
 8192 KB boot flash memory
 2048 MB code flash memory
 2048 MB DRAM
STACKID 1  system uptime is 1 day(s) 10 hour(s) 31 minute(s) 46 second(s)
STACKID 2  system uptime is 1 day(s) 10 hour(s) 31 minute(s) 42 second(s)
The system started at 15:14:06 Pacific Mon Dec 07 2015

 The system : started=warm start   reloaded=by "reload"
My stack unit ID = 1, bootup role = active
*** NOT FOR PRODUCTION ***

================================================================================
TIME STAMP : 01:37:44.222 Pacific Wed Dec 09 2015
END : show version
TIME TAKEN : 2477201 ticks (2477201 nsec)
================================================================================
...
================================================================================
BEGIN : show vlan
CONTEXT : TELNET#1 : VLAN INFO
TIME STAMP : 01:37:45.486 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================

VLAN Brief Summary Information :

System-max vlan Params: Max(4095) Default(64) Current(4000)
Default vlan Id :4010
Total Number of Vlan Configured :118
VLANs Configured :500 to 503 520 to 552 581 to 590 601 to 604 620 to 652 701 to 703 751 to 752 1001 to
1025 1560 1570 3680 4010
```

```
================================================================================
TIME STAMP : 01:37:45.486 Pacific Wed Dec 09 2015
END : show vlan
TIME TAKEN : 256660 ticks (256660 nsec)
================================================================================
================================================================================
BEGIN : show pvlan
CONTEXT : TELNET#1 : PVLAN INFO
TIME STAMP : 01:37:45.487 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================

Private VLAN Information :
================================================================================
TIME STAMP : 01:37:45.487 Pacific Wed Dec 09 2015
END : show pvlan
TIME TAKEN : 89856 ticks (89856 nsec)
================================================================================
================================================================================
BEGIN : show span detail
CONTEXT : TELNET#1 : STP INFO
TIME STAMP : 01:37:45.516 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Spanning Tree Information :
Spanning-tree is not configured on port-vlan 4010
STP instance owned by VLAN 500
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
 500 8000001bedb5bb40 6    1/2/1     8000 20  2   1   15  29533   175 cc4e24b488b0

Port STP Parameters:

Port      Prio Path  State       Fwd    Design  Designated       Designated
Num       rity Cost              Trans  Cost    Root             Bridge
          Hex
1/1/3     80   4     BLOCKING    9      4       8000001bedb5bb40 8000cc4e246dbc80
1/1/7     80   4     BLOCKING    14     4       8000001bedb5bb40 8000cc4e24705580
1/1/9     80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/11    80   4     BLOCKING    9      4       8000001bedb5bb40 8000cc4e246dbc80
1/1/13    80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/15    80   4     BLOCKING    15     4       8000001bedb5bb40 8000cc4e24705580
1/1/17    80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/1/21    80   0     DISABLED    0      0       0000000000000000 0000000000000000
1/2/1     80   2     FORWARDING  10     4       8000001bedb5bb40 8000cc4e246dbc80
1/2/4     80   2     BLOCKING    14     4       8000001bedb5bb40 8000cc4e24705580
2/1/3     80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/7     80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/9     80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/11    80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/13    80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/15    80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/17    80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/1/21    80   0     DISABLED    0      0       0000000000000000 0000000000000000
2/2/1     80   2     FORWARDING  10     4       8000001bedb5bb40 8000cc4e246dbc80
2/2/4     80   2     BLOCKING    14     4       8000001bedb5bb40 8000cc4e24705580

STP instance owned by VLAN 501
..
(output truncated)
```

show tech-support l3 ipv4-uc

Displays debugging information related to Layer 3 IPv4 unicast configurations.

Syntax

show tech-support l3 ipv4-uc

Modes

Privileged EXEC mode

Usage Guidelines

This command displays the following debugging information related to Layer 3 IPv4 unicast configurations:

- IPv4 routing table
- IPv4 interface
- Routing Information Protocol (RIP) routes and neighbors
- Border Gateway Protocol (BGP) routes and neighbors
- Open Shortest Path First Version 2 (OSPFv2) routes and neighbors

Examples

The following example shows the truncated output of the **show tech-support l3 ipv4-uc** command.

```
device# show tech-support l3 ipv4-uc
================================================================================
BEGIN : show running-config
CONTEXT : TELNET#1 : CONFIG
TIME STAMP : 01:39:18.254 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Current configuration:
!
ver 08.0.40b1T213
!
stack unit 1
  module 1 icx7250-24-port-management-module
  module 2 icx7250-sfp-plus-8port-80g-module
  priority 200
  default-ports 1/2/5 1/2/7
  stack-trunk 1/2/5 to 1/2/6
  stack-trunk 1/2/7 to 1/2/8
  stack-port 1/2/5 1/2/7
stack unit 2
  module 1 icx7250-24-port-management-module
  module 2 icx7250-sfp-plus-8port-80g-module
  priority 128
  default-ports 2/2/5 2/2/7
  stack-trunk 2/2/5 to 2/2/6
  stack-trunk 2/2/7 to 2/2/8
  stack-port 2/2/5 2/2/7
stack enable
stack rconsole-off
stack mac cc4e.24b4.88b0
!
!
global-stp
!
lag CB-BR1-150 dynamic id 10
 ports ethernet 1/2/1 ethernet 2/2/1
 primary-port 1/2/1
 deploy
 monitor ethe-port-monitored 1/2/1 ethe 1/2/3 output
 monitor ethe-port-monitored 2/2/1 ethe 1/2/3 output
!
lag CB-BR2-151 dynamic id 11
 ports ethernet 1/2/4 ethernet 2/2/4
 primary-port 1/2/4
 deploy
!
!
!
vlan 500 name all-access-aggregate-STP by port
 tagged ethe 1/1/3 ethe 1/1/7 ethe 1/1/9 ethe 1/1/11 ethe 1/1/13 ethe 1/1/15 ethe 1/1/17 ethe 1/1/21
ethe 1/2/1 ethe 1/2/4 ethe 2/1/3 ethe 2/1/7 ethe 2/1/9 ethe 2/1/11 ethe 2/1/13 ethe 2/1/15 ethe 2/1/17
ethe 2/1/21 ethe 2/2/1 ethe 2/2/4
 spanning-tree
 multicast passive
 multicast6 passive
!
================================================================================
BEGIN : ospf summary
CONTEXT : TELNET#1 : OSPF
TIME STAMP : 01:39:19.520 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
OSPF summary
------------
Total number of OSPF instances: 1

Seq Instance        Intfs   Nbrs    Nbrs-Full LSAs    Routes
```

```
1   default-vrf     3       3       3         2813    2519

OSPF Information for VRF default-vrf
------------------------------
Number of Areas is 2

Indx Area            Type   Cost       SPFR       ABR   ASBR  LSA   Chksum(Hex)
1    300             normal 0          1356       2     22    519   0102f3e9
2    0               normal 0          1356       0     0     0     0

Link States

Index Area ID         Type LS ID           Adv Rtr         Seq(Hex) Age  Cksum  SyncState
1     300             Rtr  0.0.0.170       0.0.0.170       80000039 691  0x06ce Done
2     300             Rtr  36.61.0.10      36.61.0.10      800001ec 1024 0xf62c Done
3     300             Rtr  0.0.0.162       0.0.0.162       8000394d 1820 0x7f44 Done
4     300             Rtr  0.0.0.167       0.0.0.167       8000c532 624  0xe0c6 Done
...
================================================================================
BEGIN : rip summary
CONTEXT : TELNET#1 : RIP
TIME STAMP : 01:39:23.264 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================

RIP Information for Default VRF
------------------------------
================================================================================
TIME STAMP : 01:39:23.264 Pacific Wed Dec 09 2015
END : rip summary
TIME TAKEN : 129728 ticks (129728 nsec)
================================================================================
..
(output truncated)
```

show tech-support l3 ipv6-uc

Displays debugging information related to Layer 3 IPv6 unicast configurations.

Syntax

show tech-support l3 ipv6-uc

Modes

Privileged EXEC mode

Usage Guidelines

This command displays the following debugging information related to Layer 3 IPv6 unicast configurations:

- IPv6 routing table
- IPv6 interface
- IPv6 neighbor
- OSPF Version 3 (OSPFv3) neighbors

Examples

The following example shows the truncated output of the **show tech-support l3 ipv6-uc** command.

```
device# show tech-support l3 ipv6-uc
================================================================================
BEGIN : show running-config
CONTEXT : TELNET#1 : CONFIG
TIME STAMP : 01:40:52.018 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Current configuration:
!
ver 08.0.40b1T213
!
stack unit 1
  module 1 icx7250-24-port-management-module
  module 2 icx7250-sfp-plus-8port-80g-module
  priority 200
  default-ports 1/2/5 1/2/7
  stack-trunk 1/2/5 to 1/2/6
  stack-trunk 1/2/7 to 1/2/8
  stack-port 1/2/5 1/2/7
stack unit 2
  module 1 icx7250-24-port-management-module
  module 2 icx7250-sfp-plus-8port-80g-module
  priority 128
  default-ports 2/2/5 2/2/7
  stack-trunk 2/2/5 to 2/2/6
  stack-trunk 2/2/7 to 2/2/8
  stack-port 2/2/5 2/2/7
stack enable
stack rconsole-off
stack mac cc4e.24b4.88b0
!
!
global-stp
!
...
================================================================================
BEGIN : unicast ip summary
CONTEXT : TELNET#1 : UCAST IPv6 INFO
TIME STAMP : 01:40:53.519 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
IPV6 Interfaces:
----------------
Routing Protocols : R - RIP  O - OSPF
Interface      Status     Routing  Global Unicast Address                    VRF
Ve 1560        up/up      O        156::171/64                               default-vrf
Ve 1570        up/up      O        157::171/64                               default-vrf
Ve 3680        up/up      O        36:80::171/64                             default-vrf
Loopback 1     up/up               112:112:112::171/128                      default-vrf

IPV6 Routing Summary:
---------------------
IPv6 Routing Table - 476 entries:
  4 connected, 0 static, 0 RIP, 472 OSPF, 0 BGP
  Number of prefixes:
  /64:423 /80:50 /128:3

IPV6 Routing Table:
-------------------
IPv6 Routing Table - 476 entries:
Type Codes - B:BGP C:Connected L:Local O:OSPF R:RIP S:Static
BGP  Codes - i:iBGP e:eBGP
OSPF Codes - i:Inter Area 1:External Type 1 2:External Type 2
STATIC Codes - d:DHCPv6
Type IPv6 Prefix           Next Hop Router    Interface     Dis/Metric     Uptime
O    26:66::/64            fe80::ce4e:24ff:fe70:5580
                                              ve 1570       110/2          8h14m
```

```
O2   35:81::/64            fe80::ce4e:24ff:fe6d:bc80
                                        ve 1560       110/0          8h14m
                           fe80::ce4e:24ff:fe70:5580
                                        ve 1570
Oi   36:1::/64             fe80::ce4e:24ff:fe6d:bc80
                                        ve 1560       110/3          7h42m
                           fe80::ce4e:24ff:fe70:5580
                                        ve 1570
================================================================================
BEGIN : ospfv3 summary
CONTEXT : TELNET#1 : OSPFv3
TIME STAMP : 01:40:53.524 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
OSPFV3 summary
--------------
Total number of IPv6 OSPF instances: 1

Seq Instance        Intfs   Nbrs    Nbrs-Full LSAs    Routes
1   default-vrf     3       3       3         566     475
IPV6 OSPF Memory:
----------------
   Total Dynamic Memory Allocated for this instance : 4368351 bytes
   Memory Type               Size       Allocated  Max-alloc  Alloc-Fails
   MTYPE_OSPF6_AREA          471191     2          4          0
   MTYPE_OSPF6_AREA_RANGE    29         0          16         0
   MTYPE_OSPF6_SUMMARY_ADDRE 25         0          16         0
   MTYPE_OSPF6_IF            280        3          64         0
   MTYPE_OSPF6_NEIGHBOR      12502      3          32         0
   MTYPE_OSPF6_ROUTE_NODE    21         496        4096       0
   MTYPE_OSPF6_ROUTE_INFO    35         496        4096       0
   MTYPE_OSPF6_PREFIX        20         0          16         0
   MTYPE_OSPF6_LSA           129        566        4096       0
   MTYPE_OSPF6_VERTEX        166        21         64         0
   MTYPE_OSPF6_SPFTREE       44         2          2          0
   MTYPE_OSPF6_NEXTHOP       28         7          256        0
   MTYPE_OSPF6_EXTERNAL_INFO 40         0          4096       0
   MTYPE_THREAD              32         35         1024       0
   MTYPE_OSPF6_LINK_LIST     20         12617      20480      0
   MTYPE_OSPF6_LINK_NODE     12         1827       20480      0
   MTYPE_OSPF6_LSA_RETRANSMI 6          0          8192       0
global memory pool for all instances
   Memory Type               Size       Allocated  Max-alloc  Alloc-Fails
   MTYPE_OSPF6_TOP           61475      1          1          0
   MTYPE_OSPF6_LSA_HDR       120        566        970        0
   MTYPE_OSPF6_RMAP_COMPILED 0          0          0          0
   MTYPE_OSPF6_OTHER         0          0          0          0
   MTYPE_THREAD_MASTER       84         1          1          0

OSPFV3 Information for VRF default-vrf
--------------------------------------
Area 300:
  Authentication: Not Configured
  Active interface(s)attached to this area: ve 1560  ve 1570  ve 3680
  Inactive interface(s)attached to this area: None
  Number of Area scoped LSAs is 108
  Sum of Area LSAs Checksum is 39f394
  Statistics of Area 300:
    SPF algorithm executed 452 times
    SPF last updated: 27731 sec ago
    Current SPF node count: 21
      Router: 10 Network: 11
      Maximum of Hop count to nodes: 5

LSA Key - Rtr:Router Net:Network Inap:InterPrefix Inar:InterRouter
          Extn:ASExternal Grp:GroupMembership Typ7:Type7 Link:Link
          Iap:IntraPrefix Grc:Grace

Area ID         Type LSID       Adv Rtr         Seq(Hex) Age  Cksum Len   Sync
300             Link 3073       0.0.0.171       80000036 1412 9065  56    Yes
300             Link 14374      0.0.0.150       8000002a 1407 60a8  56    Yes
300             Link 14374      0.0.0.151       8000000f 1584 7115  56    Yes
```

```
300             Link 3074       0.0.0.171       80000010 935  f227  56    Yes
300             Link 1          61.163.0.1      800001b7 1263 0668  44    Yes
300             Link 3075       0.0.0.171       80000041 696  5435  56    Yes
300             Rtr  0          0.0.0.170       800035e6 1076 afdc  40    Yes
300             Rtr  0          61.163.0.1      80000293 1089 23be  40    Yes
300             Rtr  0          0.0.0.162       80001dfd 1753 b01f  72    Yes
================================================================================
BEGIN : ripng summary
CONTEXT : TELNET#1 : RIPng
TIME STAMP : 01:40:55.560 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
IPV6 RIP Route:
---------------
IPv6 RIP Routing Table is empty!
================================================================================
TIME STAMP : 01:40:55.560 Pacific Wed Dec 09 2015
END : ripng summary
TIME TAKEN : 49491 ticks (49491 nsec)
================================================================================
..
(output truncated)
```

show tech-support license

Displays information about the license installed on the device.

Syntax

show tech-support license

Modes

Privileged EXEC mode

Usage Guidelines

The **show tech-support license** command output includes the following information:

- License name
- License ID
- License type
- Status of license
- License period
- License capacity

Examples

The following example displays sample output from the **show tech-support license** command.

```
device# show tech-support license
================================================================================
BEGIN : show license
CONTEXT : CONSOLE#0 : LICENSE
TIME STAMP : 01:30:20.093 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7750-48C/SWR08040q078
================================================================================
License Information
===================
License record empty
================================================================================
TIME STAMP : 01:30:20.093 Pacific Wed Dec 09 2015
END : show license
TIME TAKEN : 1459 ticks (61278 nsec)
================================================================================
```

History

Release version	Command history
Release 08.0.00a	This command was enhanced to display license information.

show tech-support memory

Displays debugging information related to memory usage and tracking.

Syntax

show tech-support memory

Modes

Privileged EXEC mode

Examples

```
device# show tech-support memory
================================================================================
BEGIN : show memory
CONTEXT : TELNET#1 : DRAM
TIME STAMP : 01:44:00.571 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
MEMORY Related Information :
Stack unit 1:
Total DRAM: 2147483648 bytes
  Dynamic memory: 2095140864 bytes total, 1533177856 bytes free, 26% used
Stack unit 2:
Total DRAM: 2147483648 bytes
  Dynamic memory: 2095140864 bytes total, 1547497472 bytes free, 26% used

FLASH Related Information :
Stack unit 1:
  Compressed Pri Code size = 22418510, Version:08.0.40T213 (spr08040b1.bin)
  Compressed Sec Code size = 24128807, Version:08.0.40qT213 (SPR08040q081.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1825419264
Stack unit 2:
  Compressed Pri Code size = 22418510, Version:08.0.40T213 (spr08040b1.bin)
  Compressed Sec Code size = 24128807, Version:08.0.40qT213 (SPR08040q081.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1766633472
================================================================================
TIME STAMP : 01:44:00.595 Pacific Wed Dec 09 2015
END : show memory
TIME TAKEN : 12207868 ticks (12207868 nsec)
================================================================================
```

show tech-support multicast

Displays debugging information specific to Layer 2 and Layer 3 multicast configurations.

Syntax

show tech-support multicast

Modes

Privileged EXEC mode

Usage Guidelines

This command displays the following debugging information specific to Layer 2 and Layer 3 multicast configurations:

- Multicast VLAN
- Multicast table
- Multicast counters
- Internet Group Management Protocol (IGMP) group
- Protocol Independent Multicast (PIM) neighbor
- IP Multicast routing table

Examples

The **show tech-support multicast** command output resembles the following example.

```
device# show tech-support multicast
================================================================================
BEGIN : show running-config
CONTEXT : TELNET#1 : CONFIG
TIME STAMP : 01:44:36.149 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
...
================================================================================
BEGIN : show ip multicast vlan
CONTEXT : TELNET#1 : MCAST VLAN INFO
TIME STAMP : 01:44:37.536 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
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=255

Replication resource sharing: Enabled.
VL500: dft V2, vlan cfg passive, 0 grp, 0 (*G) cache, rtr ports,
    router ports: e1/2/1(240) 102.102.102.102,
VL501: dft V2, vlan cfg passive, 0 grp, 0 (*G) cache, rtr ports,
    router ports: e2/2/4(200) 100.100.100.100,
VL502: dft V2, vlan cfg passive, 0 grp, 0 (*G) cache, rtr ports,
    router ports: e2/2/4(200) 100.100.100.100,
VL503: dft V2, vlan cfg passive, 0 grp, 0 (*G) cache, rtr ports,
    router ports: e2/2/4(200) 100.100.100.100,
VL520 no snoop: no global or local config
VL521 no snoop: no global or local config
VL522 no snoop: no global or local config
VL523 no snoop: no global or local config
VL524 no snoop: no global or local config
================================================================================
TIME STAMP : 01:44:37.638 Pacific Wed Dec 09 2015
END : show ip multicast vlan
TIME TAKEN : 50747990 ticks (50747990 nsec)
================================================================================
================================================================================
BEGIN : show ip multicast group
CONTEXT : TELNET#1 : MCAST GROUP
TIME STAMP : 01:44:37.638 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Multicast Group Table information
---------------------------------
VL603 : 100 groups, 100 group-port
      group            p-port      ST     QR     life  mode    source
1     229.20.10.100    e2/1/14     no     no     220   EX      0
2     229.20.10.99     e2/1/14     no     no     220   EX      0
3     229.20.10.98     e2/1/14     no     no     220   EX      0
4     229.20.10.97     e2/1/14     no     no     220   EX      0
5     229.20.10.96     e2/1/14     no     no     220   EX      0
6     229.20.10.95     e2/1/14     no     no     220   EX      0
7     229.20.10.94     e2/1/14     no     no     220   EX      0
8     229.20.10.93     e2/1/14     no     no     220   EX      0
9     229.20.10.92     e2/1/14     no     no     220   EX      0
10    229.20.10.91     e2/1/14     no     no     220   EX      0
11    229.20.10.90     e2/1/14     no     no     220   EX      0
================================================================================
TIME STAMP : 01:44:38.592 Pacific Wed Dec 09 2015
END : show ip multicast group
TIME TAKEN : 477008236 ticks (477008236 nsec)
================================================================================
================================================================================
BEGIN : show ip multicast mcache
CONTEXT : TELNET#1 : MCAST FORWADING CACHE
```

```
TIME STAMP : 01:44:38.592 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Multicast Cache information
---------------------------
Example: (S G) cnt=: (S G) are the lowest 32 bits, cnt is number of SW processed packets
    OIF: 1/1/22 TR(1/1/32,1/1/33), TR is trunk, 1/1/32 primary, 1/1/33 output
vlan 500, 0 cache
vlan 501, 0 cache
vlan 502, 0 cache
vlan 503, 0 cache
vlan 551, 0 cache
vlan 552, 0 cache
vlan 601, 0 cache
vlan 602, 0 cache
vlan 603, 500 caches.
1    (* 229.44.14.87) cnt=0
     OIF: tag TR(e1/2/1)
     age=158s up-time=339s, change=75s ipmc=178 (ref-cnt=1)
2    (* 229.43.13.11) cnt=0
     OIF: tag TR(e1/2/1)
...
================================================================================
BEGIN : sh ip multicast pimsm-snooping
CONTEXT : TELNET#1 : MCAST PIM SM
TIME STAMP : 01:44:40.967 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Multicast PIM-SM Snooping
---------------------------------
 OIF Info:
 TR - OIF Belongs to Trunk/LAG, Primary port is displayed
 SG - (s,g) downstream fsm state:
 G - (*,g) downstream fsm state:
     NI : No Info, J : Join, PP : Prune Pending, CLEAN : cleanup in progress
 RPT - (s,g,rpt) downstream fsm state:
     NI : No Info, P : Pruned, PP : Prune Pending, Px : Temp step in (*,G)
     join processing, PPx : Temp State in (*,G) processing, CLEAN : cleanup
     in progress.

================================================================================
TIME STAMP : 01:44:40.967 Pacific Wed Dec 09 2015
END : sh ip multicast pimsm-snooping
TIME TAKEN : 211008 ticks (211008 nsec)
================================================================================
(output truncated)
```

show tech-support packet-loss

Displays packet statistics information that helps in debugging packet loss scenarios.

Syntax

show tech-support packet-loss

Modes

Privileged EXEC mode

Examples

```
device# show tech-support packet-loss
================================================================================
BEGIN : show tech-support packet-loss
CONTEXT : TELNET#1 : PP total Tx stats
TIME STAMP : 01:45:57.598 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
PP total stats :

 Packet drop count due to congestion per egress port

Port 1/1/3:    Tx packets 365249007   Dropped packets 3242924084
Port 1/1/7:    Tx packets 371914450   Dropped packets 3187749769
Port 1/1/11:    Tx packets 336059517   Dropped packets 3252545377
Port 1/1/15:    Tx packets 418982528   Dropped packets 3301331461
Port 1/2/1*2/2/1:    Tx packets 14885841964   Dropped packets 243005328
Port 1/2/3:    Tx packets 65260351371   Dropped packets 1634560898
Port 1/2/4*2/2/4:    Tx packets 25506560000   Dropped packets 1207903341
Port 1/2/5:    Tx packets 18113571571   Dropped packets 4206342598
Port 1/2/6:    Tx packets 6101236013   Dropped packets 57932094
Port 1/2/7:    Tx packets 11122355161   Dropped packets 4149078862
Port 1/2/8:    Tx packets 2464658796   Dropped packets 54877456
Port 2/1/14:    Tx packets 13591655185   Dropped packets 42664609120
Port 1/2/1*2/2/1:    Tx packets 25329400802   Dropped packets 22875188
Port 1/2/4*2/2/4:    Tx packets 8416112242   Dropped packets 956319407
Port 2/2/5:    Tx packets 3066065916   Dropped packets 57225285
Port 2/2/6:    Tx packets 38759968148   Dropped packets 2714421561
Port 2/2/7:    Tx packets 17976224763   Dropped packets 347143512
Port 2/2/8:    Tx packets 62674173283   Dropped packets 4287682891
================================================================================
TIME STAMP : 01:45:57.606 Pacific Wed Dec 09 2015
END : show tech-support packet-loss
TIME TAKEN : 4092082 ticks (4092082 nsec)
================================================================================
```

supportsave

Use the supportsave 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.

Syntax

supportsave { **all** | **custom** | **infra** | **l2** | **l3** | **os** | **platform** | **spx** | **system** } { *tftp_server_ IP tftp_ server's_ relative_ path_name* [*user_tag*] | **display** | **unit-id** *unit-number* }

supportsave core { *tftp_server_ IP tftp_ server's_ relative_ path_name* [*user_tag*] | **unit-id** *unit-number* }

supportsave cancel

Parameters

all
Collects all supportsave related log files.

core
Collects core logs from all devices.

custom
Executes all commands present in the default and custom commands list and sends the output to the specified TFTP server address.

infra
Collects stacking related information.

l2
Collects Layer 2 related information.

l3
Collects Layer 3 related information.

os
Collects operating system (OS) related information.

platform
Collects platform related information.

spx
Collects SPX related information.

system
Collects all general commands information.

tftp_server_ IP
Specifies the IP address of the TFTP server.

tftp_ server's_ relative_ path_name
Specifies the file path name of TFTP server relative to TFTP server's default directory to dump supportsave logs. To specify the default directory itself, use '/'.

user_tag
Specifies the user tag to be added in the supportsave collected file name. Maximum of 10 characters are allowed.

display

Displays the supportsave information (except the non-textual output like core files) in the console window.

unit-id *unit-number*

Collects data from a specific stack or PE unit and the active unit and sends to the TFTP server. If the specified unit-id and the active unit are same, only the active unit data is collected.

cancel

Cancels supportsave.

Modes

Privileged EXEC mode

Usage Guidelines

The **supportsave** command has the following advantages over the **show tech-support** command:

- Allows you to add additional commands to collect more data.
- Allows to transfer the collected data to an external server such as Trivial File Transfer Protocol (TFTP) server.

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.

Limitations and prerequisites

The following are the limitations and pre-requisites of the supportsave utility:

- Parallel execution of the **supportsave** command from two different sessions is not allowed.
- Parallel execution of the **supportsave** command and the copy tftp/scp commands is not allowed.
- It is recommended that you do not run any CLIs when supportsave operation is in progress.
- Only IPv4 address is supported for the TFTP destination.
- Only up to 32 commands can be added to the custom command list.
- Commands are not expanded while adding a command to the custom commands list.
- Commands added to the custom command list must be privileged EXEC mode MP commands.
- It is recommended that you do not add any filters with the commands.
- The **supportsave** command cannot be added to the custom commands list. Also, the commands which change the CLI mode (exit, quit, end) and commands which restart the router (switchover, reload, reload-yes) must not be added.
- Modifying the custom commands list using the **supportsave add-cmd** or **supportsave del-cmd** commands is not allowed while the supportsave data collection is in progress.
- Time taken by the **supportsave** command depends on the commands present in the list.
- The **supportsave** command does not support collecting crash logs from standby units in a mixed stack.
- The filename length including tag string must be less than 32 characters.
- The **supportsave custom** command denies commands other than show commands, dm commands, and fips show command.
- Few **show** output commands are restricted to display only the first page in the console. This restriction is not applicable for sending the **supportsave** command output through file transfer.

- **Display** option is available for modules like l2, l3, platform, system, infra, custom and all. Non-textual output like core files are not displayed in the console.

Examples

When the **display** option is enabled, some of the **show** commands are restricted to display only the first page. However, the *tftp_server_IP* option, transfers the complete command output to the TFTP server.

NOTE
Ruckus recommends to use **all** option to collect complete logs.

To collect all **supportsave** related logs, enter the **supportsave all** command as shown in the following example.

```
device# supportsave all 10.37.2.40 fi/prince/supportsave
Supportsave started. This operation may take several minutes.
Press "A" to abort supportsave operation.
ICX7750-48C
device#.**********************.............................................
.........................................................................
Supportsave completed in 10 seconds
```

supportsave (SCP)

Collects logs from different modules and uploads the logs into a remote SCP server.

Syntax

supportsave [**all** | **cancel** | **core** | **custom** | **info** | **infra** | **l2** | **l3** | **os** | **platform** | **spx** | **system** | *tag* | [**unit-id** *number* | *tag*]]

supportsave [*ipv4address*] [**show**]

supportsave [**add_cust_cmd_index** { *decimal_value "string"* }]

supportsave [**del_cust_cmd_index** { **all** *integer* }]

supportsave [**info disable** | **info enable** | **list_cust_cmd** | **show**]

Command Default

The supportsave functionality is not active.

Parameters

all
Sends all information to the remote SCP server.

cancel
Cancels the **supportsave** command operation.

core
Sends core information to the remote SCP server.

custom
Sends custom list of information to the remote SCP server.

info
Displays information about the **supportsave** command. If info is enabled, then the collected commands contain additional information like BEGIN, CONTEXT, TIME STAMP, HW/SW INFO, and so on.

infra
Sends infrastructure information to the remote SCP server.

l2
Sends Layer 2 information to the remote SCP server.

l3
Sends Layer 3 information to the remote SCP server.

os
Sends Operating System information to the remote SCP server.

platform
Sends platform information to the remote SCP server.

spx
Sends Sequenced Packet Exchange (SPX) information to the remote SCP server.

system
Sends system information to the remote SCP server.

tag
Appends a text string to the collected file name on the remote SCP server.

unit-id *number*
The unit number can be any ID present in the stack. The unit ID accepts only one integer. The logs are collected from the corresponding unit ID and send it to remote server.

show
Displays the amount of percentage executed in the currently executing command process.

ipv4address
Designates the IP address for the remote server.

add_cust_cmd index *integer*
Adds the given command at the given index in the custom commands list. If there is already a command present at the index passed, then add operation will fail.

string
The CLI command which is to be added. There is no default value.

integer
Index where the command will be added. Valid range 1 to 32. This is a mandatory parameter, with no default value.

del_cust_cmd index
Deletes the given command at the given index in the custom commands list. If there is already a command present at the index passed, then add operation will fail.

all
Removes all configured custom commands from the supportsave list.

integer
Index where the command will be deleted. Valid range 1 to 32. This is a mandatory parameter, with no default value.

info disable
Disables the header to be displayed for all show commands being executed.

info enable
Enable the header to be displayed for all show commands being executed.

list_cust_cmd
Displays the custom command list.

Modes

Privileged EXEC mode

Usage Guidelines

The collected logs are shared with the technical support personnel for investigating issues seen on the device. Once the **supportsave** command is executed, logs are collected and uploaded into the remote SCP server.

Parallel execution of **supportsave** command from two different sessions is not allowed. Parallel execution of **supportsave** command and the **copy tftp** or **copy scp** commands is not allowed.

The **supportsave** command supports IPv4.

A maximum of 32 commands can be added to the custom command list. Commands are not expanded while adding a command to the custom commands list. It is recommended not to add any filters with the commands.

Modifying the custom commands list using **supportsave add_cust_cmd** or **supportsave del_cust_cmd** is not allowed while supportsave data collection is in progress.

Time taken by the **supportsave** commands depends on the commands present in the list and the distance of SCP server.

In order to avoid looping, the **supportsave** command cannot be added to the custom command list. Also, the commands which changes the CLI mode (exit, quit) and commands which restart the router (switchover, reload) are not accepted.

The tag string should be less than 11 characters.

The **supportsave** command uses the outbound SSH session

SCP operations are not allowed while **supportsave** is in progress.

Cancelling the **supportsave** command during the file transfer does not cancel the current file transfer. While cancelling the **supportsave** command, you must wait for the current file transfer to complete before executing the **supportsave** command again.

Supportsave is not High Availability (HA) aware.

The **supportsave** command aborts when the remote server is terminated. Additionally, when the data is collected from the remote unit, and if the corresponding unit is powered off, the **supportsave** command is terminated.

Use the **supportsave cancel** command to stop supportsave opertations.

Examples

Example of **supportsave** command collecting Layer 3 information.

```
device# supportsave l3 scp 10.xx.xx.104
User name:root
Password:Supportsave started. This operation may take several minutes.
Press "Shift-A" to abort supportsave operation.
asethura#####################################################################
Connecting to remote host......

Sending data (8192 bytes per dot)
.

SCP transfer from device completed

Connection Closed

Supportsave completed in 1 seconds
```

Example of **supportsave** command adding a custom command to the fifth position in the index.

```
device# supportsave add_cust_cmd index 5 "host-max-num 512"
```

Example of **supportsave** command deleting a custom command from the fifth position in the index.

```
device# supportsave del_cust_cmd index 5
```

History

Release version	Command history
08.0.61	This command was introduced.

supportsave add_cust_cmd index

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.

Syntax

supportsave add_cust_cmd index *index_number "cli string"*

Parameters

index_number

Specifies the index in the custom commands list where an additional command need to be added. The valid range is from 1 through 32.

cli string

Specifies the commands to be added to the custom commands list.

Modes

Privileged EXEC mode

Examples

```
device# supportsave add_cust_cmd index 1 "show chassis"
```

supportsave del_cust_cmd all

Deletes all the custom module commands.

Syntax

supportsave del_cust_cmd all

Modes

Privileged EXEC mode

supportsave del_cust_cmd index

Deletes a command from the custom module at a particular index during the run time.

Syntax

supportsave del_cust_cmd index *index_number*

Parameters

index_number

Specifies the index in the custom commands list where an additional command need to be removed. The valid range is from 1 through 32.

Modes

Privileged EXEC mode

Examples

```
device# supportsave add_cust_cmd index 1 "show chassis"
```

supportsave info disable

Disables the header to be displayed for all supportsave and show tech-support commands being executed on CLI.

Syntax

supportsave info disable

Modes

Privileged EXEC mode

supportsave info enable

display BEGIN headers.

Syntax

supportsave info enable

Modes

Privileged EXEC mode

Usage Guidelines

By default, the **supportsave** command outputs display BEGIN headers. and **show tech-support** command outputs display both BEGIN and END headers. The commands under show tech command, which is a part of supportsave output, will have both BEGIN and END headers.

You can disable the header display by using the supportsave info disable command. You can use the supportsave info enable command to re-enable the header display. Even if supportsave info enable command is issued, other show commands do not display the headers.

The header format is modified to include the following information:

- BEGIN - Indicates the command that will begin execution next.
- CONTEXT - Indicates in which session the command is executed.

  If Supportsave command is issued in more than one terminal, the respective terminal information is displayed in the CONTEXT field.
- TIME STAMP - A time stamp, with millisecond granularity, helps to determine time difference between separate runs of the same command. If NTP or local clock is not set in a device, then header displays Epoch time in the TIMESTAMP field. Epoch time is a universal time which starts from Jan 1, 1970. Therefore, for Linux platforms, the Epoch time format is 00:00:00.000 GMT+00 Thu Jan 01 1970. For non-Linux platforms, the Epoch time format is Jan 01 00:00:00.000.
- HW/SW INFO - Indicates the hardware and software version information of the device.

Examples

The following sample output of supportsave all display command shows the modified header format.

```
device# supportsave info enable
device# supportsave all display
Supportsave started. This operation may take several minutes.
Press "A" to abort supportsave operation.
================================================================================
BEGIN : show flash
CONTEXT : TELNET#1 : show flash
TIME STAMP : 01:47:24.377 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Stack unit 1:
  Compressed Pri Code size = 22418510, Version:08.0.40T213 (spr08040b1.bin)
  Compressed Sec Code size = 24128807, Version:08.0.40qT213 (SPR08040q081.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1825419264
Stack unit 2:
  Compressed Pri Code size = 22418510, Version:08.0.40T213 (spr08040b1.bin)
  Compressed Sec Code size = 24128807, Version:08.0.40qT213 (SPR08040q081.bin)
  Compressed Boot-Monitor Image size = 786944, Version:10.1.06T215
  Code Flash Free Space = 1766633472
telnet@ACC-SICA-171#
==========END OF A COMMAND==========
104126_000100
==========show module==========
================================================================================
BEGIN : show module
CONTEXT : TELNET#1 : show module
TIME STAMP : 01:47:24.382 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
       Module                                     Status Ports Starting MAC
U1:M1  ICX7250-24 24-port Management Module         OK     24   cc4e.24b4.88b0
U1:M2  ICX7250-SFP-Plus 8-port 80G Module           OK     8    cc4e.24b4.88b0
U2:M1  ICX7250-24 24-port Management Module         OK     24   cc4e.24b4.81f0
U2:M2  ICX7250-SFP-Plus 8-port 80G Module           OK     8    cc4e.24b4.88b0
telnet@ACC-SICA-171#
==========END OF A COMMAND==========
104126_000100
==========show chassis==========
================================================================================
BEGIN : show chassis
CONTEXT : TELNET#1 : show chassis
TIME STAMP : 01:47:24.384 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
The stack unit 1 chassis info:

Power supply 1 (AC - Regular) present, status ok
Power supply 2 not present

Fan ok, speed (auto): [[1]]<->2

Fan controlled temperature: 84.5 deg-C

Fan speed switching temperature thresholds:
Speed 1: NM<----->98       deg-C
Speed 2:       67<----->105 deg-C (shutdown)

Fan 1 Air Flow Direction:  Front to Back
Slot 1 Current Temperature: 84.5 deg-C (Sensor 1)
Slot 2 Current Temperature: NA
Warning level.......: 100.0 deg-C
Shutdown level......: 105.0 deg-C
Boot Prom MAC : cc4e.24b4.88b0
Management MAC: cc4e.24b4.88b0

The stack unit 2 chassis info:
```

```
Power supply 1 (AC - Regular) present, status ok
Power supply 2 not present

Fan ok, speed (auto): [[1]]<->2

Fan controlled temperature: 81.8 deg-C

Fan speed switching temperature thresholds:
Speed 1: NM<----->98       deg-C
Speed 2:       67<----->105 deg-C (shutdown)

Fan 1 Air Flow Direction:Front to Back
Slot 1 Current Temperature: 82.4 deg-C (Sensor 1)
Slot 2 Current Temperature: NA
Warning level.......: 100.0 deg-C
Shutdown level......: 105.0 deg-C
Boot Prom MAC : cc4e.24b4.81f0

==========END OF A COMMAND==========
104126_000100
==========show files==========
================================================================================
BEGIN : show files
CONTEXT : TELNET#1 : show files
TIME STAMP : 01:47:24.429 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Type       Size   Name
----------------------
F        22418510 primary
F        24128807 secondary
F             256 primary.sig
F            7138 script.log_000347_000000_SPR08040q017_cc4e.24b4.88b0.txt
F           13805 startup-config.backup
F             256 bootrom.sig
F             393 stacking.boot
F           13297 startup-config.old
F           13297 startup-config.txt
F              94 dhcpsnoop_data
F            1576 $$ssh8rsahost.key
F             256 secondary.sig

46597685 bytes 12 File(s) in FI root

     1825419264 bytes free in FI root

telnet@ACC-SICA-171#
==========END OF A COMMAND==========
104126_000100
==========show memory==========
================================================================================
BEGIN : show memory
CONTEXT : TELNET#1 : show memory
TIME STAMP : 01:47:24.444 Pacific Wed Dec 09 2015
HW/SW INFO : ICX7250-24/SPR08040b1
================================================================================
Stack unit 1:
Total DRAM: 2147483648 bytes
  Dynamic memory: 2095140864 bytes total, 1530638336 bytes free, 26% used
Stack unit 2:
Total DRAM: 2147483648 bytes
  Dynamic memory: 2095140864 bytes total, 1547481088 bytes free, 26% used
telnet@ACC-SICA-171#
==========END OF A COMMAND==========
104126_000100
==========show media==========
..
(output truncated)
```

supportsave list_cust_cmd

Displays all commands present in the custom commands list.

Syntax

supportsave list_cust_cmd

Modes

Privileged EXEC mode

supportsave show

Collects and displays debugging information related to stacking configurations.

Syntax

supportsave show [**show** | **cancel**]

Parameters

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.

Modes

Privileged EXEC mode

Examples

The following is the sample output from the **supportsave show** command.

```
device# supportsave show
Supportsave is executing commands: 19% completed
device# supportsave show
Supportsave is executing commands: 34% completed
device# supportsave show
Supportsave is executing commands: 60% completed
device# supportsave show.
Supportsave is executing commands: 100% completed
Supportsave is transporting files...
```



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