



## **Cisco Nexus 7000 Series NX-OS Multicast Routing Command Reference**

August 2013

### **Americas Headquarters**

Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
<http://www.cisco.com>  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 527-0883

Text Part Number: OL-25804-03

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: [www.cisco.com/go/trademarks](http://www.cisco.com/go/trademarks). Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Any Internet Protocol (IP) addresses used in this document are not intended to be actual addresses. Any examples, command display output, and figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses in illustrative content is unintentional and coincidental.

*Cisco Nexus 7000 Series NX-OS Multicast Routing Command Reference*  
© 2013 Cisco Systems, Inc. All rights reserved.



**Preface 11**

**New and Changed Information 113**

**C Commands 11**

clear ip igmp event-history	12
clear ip igmp groups	14
clear ip igmp interface statistics	16
clear ip igmp route	17
clear ip igmp snooping event-history	19
clear ip igmp snooping statistics vlan	110
clear ip mroute	111
clear ip msdp event-history	112
clear ip msdp peer	113
clear ip msdp policy statistics sa-policy	114
clear ip msdp route	115
clear ip msdp sa-cache	117
clear ip msdp statistics	119
clear ip pim event-history	120
clear ip pim interface statistics	121
clear ip pim policy statistics	122
clear ip pim route	124
clear ip pim statistics	125
clear ip routing multicast event-history	126
clear ipv6 mld groups	127
clear ipv6 mld route	129
clear ipv6 mroute	131
clear ipv6 pim event-history	132
clear ipv6 pim interface statistics	133
clear ipv6 pim policy statistics	134
clear ipv6 pim route	135
clear ipv6 pim statistics	136

- clear ipv6 routing multicast event-history 137
- clear routing ipv6 multicast 138
- clear routing multicast 139

**F Commands 141**

- feature msdp 142
- feature pim 143
- feature pim6 144
- 146

**H Commands 147**

- hardware fabric flow-control multicast 148
- hardware forwarding shim 149
- hardware proxy layer-3 replication rebalance-mode 150
- hardware proxy layer-3 replication 152
- hardware proxy layer-3 replication trigger rebalance 154

**I Commands 155**

- ip igmp access-group 156
- ip igmp enforce-router-alert 157
- ip igmp event-history 158
- ip igmp flush-routes 160
- ip igmp group-timeout 161
- ip igmp immediate-leave 162
- ip igmp join-group 163
- ip igmp last-member-query-count 165
- ip igmp last-member-query-response-time 166
- ip igmp query-interval 167
- ip igmp query-max-response-time 168
- ip igmp query-timeout 169
- ip igmp report-link-local-groups 170
- ip igmp report-policy 171
- ip igmp robustness-variable 173
- ip igmp snooping (Global) 174
- ip igmp snooping (VLAN) 175
- ip igmp snooping event-history 177
- ip igmp snooping explicit-tracking 179

ip igmp snooping fast-leave	181
ip igmp snooping group-timeout	183
ip igmp snooping group-timeout (VLAN)	184
ip igmp snooping last-member-query-interval	186
ip igmp snooping link-local-groups-suppression	188
ip igmp snooping max-gq-miss	190
ip igmp snooping mrouter interface	191
ip igmp snooping optimised-multicast-flood	193
ip igmp snooping proxy	194
ip igmp snooping proxy (VLAN)	195
ip igmp snooping querier	196
ip igmp snooping query-interval	198
ip igmp snooping query-max-response-time	199
ip igmp snooping querier-timeout	1100
ip igmp snooping report-suppression	1101
ip igmp snooping robustness-variable	1103
ip igmp snooping startup-query-count	1104
ip igmp snooping startup-query-interval	1105
ip igmp snooping static-group	1106
ip igmp snooping version	1108
ip igmp snooping v3-report-suppression (Global)	1109
ip igmp snooping v3-report-suppression (VLAN)	1110
ip igmp ssm-translate	1112
ip igmp startup-query-count	1114
ip igmp startup-query-interval	1115
ip igmp state-limit	1116
ip igmp static-oif	1117
ip igmp version	1119
ip mroute	1120
ip msdp description	1122
ip msdp event-history	1123
ip msdp flush-routes	1125
ip msdp group-limit	1126
ip msdp keepalive	1127
ip msdp mesh-group	1128

ip msdp originator-id	1129
ip msdp password	1130
ip msdp peer	1131
ip msdp reconnect-interval	1133
ip msdp sa-interval	1134
ip msdp sa-limit	1135
ip msdp sa-policy in	1136
ip msdp sa-policy out	1137
ip msdp shutdown	1138
ip pim anycast-rp	1139
ip pim auto-rp listen	1140
ip pim auto-rp mapping-agent	1141
ip pim auto-rp mapping-agent-policy	1143
ip pim auto-rp rp-candidate	1144
ip pim auto-rp rp-candidate-policy	1146
ip pim bidir-rp-limit	1147
ip pim border	1149
ip pim bsr bsr-policy	1150
ip pim bsr-candidate	1151
ip pim bsr forward	1153
ip pim bsr listen	1155
ip pim bsr rp-candidate-policy	1157
ip pim dr-priority	1158
ip pim event-history	1159
ip pim flush-routes	1161
ip pim hello-authentication ah-md5	1162
ip pim hello-interval	1164
ip pim jp-policy	1166
ip pim log-neighbor-changes	1168
ip pim neighbor-policy	1169
ip pim pre-build-spt	1170
ip pim register-policy	1172
ip pim register-rate-limit	1173
ip pim register-until-stop	1174
ip pim rp-address	1175

ip pim rp-candidate	1177
ip pim send-rp-announce	1179
ip pim send-rp-discovery	1181
ip pim sg-expiry-timer	1183
ip pim sparse-mode	1184
ip pim spt-threshold infinity	1185
ip pim ssm policy	1187
ip pim ssm range	1188
ip pim state-limit	1190
ip pim use-shared-tree-only	1192
ip routing multicast event-history	1194
ip routing multicast holddown	1196
ip routing multicast software-replicate	1197
ipv6 mld access-group	1198
ipv6 mld group-timeout	1199
ipv6 mld immediate-leave	1200
ipv6 mld join-group	1201
ipv6 mld last-member-query-count	1203
ipv6 mld last-member-query-response-time	1204
ipv6 mld querier-timeout	1205
ipv6 mld query-interval	1207
ipv6 mld query-max-response-time	1208
ipv6 mld query-timeout	1209
ipv6 mld report-link-local-groups	1211
ipv6 mld report-policy	1212
ipv6 mld robustness-variable	1213
ipv6 mld ssm-translate	1214
ipv6 mld startup-query-count	1216
ipv6 mld startup-query-interval	1217
ipv6 mld state-limit	1218
ipv6 mld static-oif	1220
ipv6 mld version	1222
ipv6 pim anycast-rp	1223
ipv6 pim bidir-rp-limit	1224
ipv6 pim border	1226

ipv6 pim bsr bsr-policy	1227
ipv6 pim bsr-candidate	1228
ipv6 pim bsr forward	1230
ipv6 pim bsr listen	1232
ipv6 pim bsr rp-candidate-policy	1234
ipv6 pim dr-priority	1235
ipv6 pim event-history	1236
ipv6 pim flush-routes	1238
ipv6 pim hello-interval	1239
ipv6 pim jp-policy	1240
ipv6 pim log-neighbor-changes	1242
ipv6 pim neighbor-policy	1243
ipv6 pim register-policy	1244
ipv6 pim register-rate-limit	1245
ipv6 pim rp-address	1246
ipv6 pim rp-candidate	1248
ipv6 pim sparse-mode	1250
ipv6 pim ssm range	1251
ipv6 pim state-limit	1253
ipv6 pim use-shared-tree-only	1255
ipv6 routing multicast event-history	1256
ipv6 routing multicast holddown	1258
ipv6 routing multicast software-replicate	1259

**I Commands 141**

layer-2 multicast lookup mac (Global configuration mode)	142
layer-2 multicast lookup mac (VLAN configuration mode)	143

**M Commands 11**

mac address-table multicast	12
	13

**R Commands 15**

restart igmp	16
restart msdp	17
restart pim	18
restart pim6	19



<b>Show Commands</b>	<b>111</b>
show forwarding distribution ip igmp snooping	112
show forwarding distribution ipv6 multicast route	114
show forwarding distribution l2 multicast vlan	116
show forwarding distribution multicast	118
show forwarding distribution multicast client	119
show forwarding distribution multicast outgoing-interface-list	120
show forwarding distribution multicast route	121
show forwarding ipv6 multicast route	123
show forwarding l2 multicast vlan	125
show forwarding multicast outgoing-interface-list	127
show forwarding multicast route	128
show ip igmp event-history	130
show ip igmp groups	132
show ip igmp interface	134
show ip igmp local-groups	136
show ip igmp	138
show ip igmp snooping	140
show ip igmp snooping event-history	141
show ip igmp snooping explicit-tracking	143
show ip igmp snooping groups	144
show ip igmp snooping look-up mode	145
show ip igmp snooping mac-oif	147
show ip igmp snooping mrouter	149
show ip igmp snooping querier	150
show ip igmp snooping statistics	151
show ip mroute	153
show ip mroute summary	155
show ip msdp count	157
show ip msdp event-history	159
show ip msdp mesh-group	161
show ip msdp peer	162
show ip msdp policy statistics sa-policy	164
show ip msdp route	166
show ip msdp rpf	168

show ip msdp sa-cache	169
show ip msdp sources	171
show ip msdp summary	173
show ip netstack mroute	174
show ip pim df	176
show ip pim event-history	177
show ip pim group-range	178
show ip pim interface	179
show ip pim neighbor	181
show ip pim oif-list	183
show ip pim policy statistics auto-rp	185
show ip pim policy statistics bsr	187
show ip pim policy statistics jp-policy	189
show ip pim policy statistics neighbor-policy	191
show ip pim policy statistics register-policy	193
show ip pim route	194
show ip pim rp	196
show ip pim rp-hash	197
show ip pim statistics	198
show ip pim vrf	1100
show ipv6 mld groups	1101
show ipv6 mld local-groups	1103
show ipv6 mroute	1105
show ipv6 mroute summary	1107
show ipv6 pim df	1109
show ipv6 pim event-history	1110
show ipv6 pim group-range	1111
show ipv6 pim interface	1112
show ipv6 pim neighbor	1114
show ipv6 pim oif-list	1116
show ipv6 pim policy statistics jp-policy	1118
show ipv6 pim policy statistics neighbor-policy	1119
show ipv6 pim route	1120
show ipv6 pim rp	1121
show ipv6 pim rp-hash	1123

show ipv6 pim statistics	1124
show ipv6 pim vrf	1126
show routing ip multicast event-history	1127
show hardware proxy layer-3 detail	1129
show routing ipv6 multicast	1130
show routing ipv6 multicast clients	1131
show routing ipv6 multicast event-history	1133
show routing multicast	1135
show routing multicast clients	1137
show running-config igmp	1139
show running-config msdp	1140
show running-config pim	1142
show running-config pim6	1144
show startup-config igmp	1146
show startup-config msdp	1147
show startup-config pim	1149
show startup-config pim6	1151
show system internal xbar fabric-flow-control-info	1152





## New and Changed Information

This chapter provides release-specific information for each new and changed feature in the *Cisco Nexus 7000 Series NX-OS Multicast Routing Command Reference*. The latest version of this document is available at the following Cisco website:

<http://www.cisco.com/c/en/us/support/switches/nexus-7000-series-switches/products-command-reference-list.html>

To check for additional information about this Cisco NX-OS Release, see the *Cisco NX-OS Release Notes* available at the following Cisco website:

<http://www.cisco.com/c/en/us/support/switches/nexus-7000-series-switches/products-release-notes-list.html>

The table below summarizes the new and changed features for the *Cisco Nexus 7000 Series NX-OS Multicast Routing Command Reference*.

**Table 1**      **New and Changed Features**

Feature	Description	Changed in Release
<b>Multicast performance enhancement</b>	Added the <b>hardware forwarding shim</b> command.	6.2(2)
<b>ip igmp snooping max-gq-miss</b>	This command was introduced.	6.2(2)
<b>show ip igmp groups</b>	Changed the position of the <b>summary</b> option in the <b>show ip igmp groups</b> and <b>show ip igmp route</b> set of commands (The <b>summary</b> option used to be after the <b>vrf</b> option and now it will precede it).	6.1(1)
<b>ip pim register-until-stop</b>	This command was introduced.	5.2(1)
<b>layer-2 multicast lookup mac (Global configuration mode)</b>	This command was introduced.	5.2(1)
<b>layer-2 multicast lookup mac (VLAN configuration mode)</b>	This command was introduced.	5.2(1)
<b>mac address-table multicast</b>	This command was introduced.	5.2(1)
<b>show forwarding distribution I2 multicast vlan</b>	This command was introduced.	5.2(1)
<b>hardware proxy layer-3 replication</b>	This command was introduced.	5.1(1)
<b>hardware proxy layer-3 replication trigger rebalance</b>	This command was introduced.	5.1(1)

**Table 1**      **New and Changed Features**

<b>Feature</b>	<b>Description</b>	<b>Changed in Release</b>
<b>hardware proxy layer-3 replication rebalance-mode</b>	This command was introduced.	5.1(1)
<b>show hardware proxy layer-3 detail</b>	This command was introduced.	5.1(1)
<b>ip pim rp-address</b>	Added the keyword <b>override</b>	5.1(1)
<b>[ip   ipv6] pim jp-policy <i>policy-name</i> [in   out]</b>	Added the keywords <b>in</b> and <b>out</b> .	4.2(3)
<b>ip pim pre-build-spt</b>	This command was introduced.	4.2(3)
<b>ip pim sg-expiry-timer</b>	This command was introduced.	4.2(3)
<b>[ip   ipv6] routing multicast software-replicate</b>	This command was introduced.	4.2(3)
<b>ip igmp join-group</b>	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .	4.2(1)
<b>ip igmp static-oif</b>	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .	4.2(1)
<b>ip pim rp-address</b>	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .	4.2(1)
<b>ip pim ssm range</b>	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .	4.2(1)
<b>ip routing multicast event-history</b>	Added the keyword <b>mfdm-events</b> . Changed the keyword <b>mfdm</b> to <b>mfdm-debug</b> .	4.2(1)
<b>[ip   ipv4] routing multicast holddown</b>	This command was introduced.	4.2(1)
<b>ipv6 [icmp] mld join-group</b>	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .	4.2(1)
<b>ipv6 [icmp] mld static-oif</b>	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .	4.2(1)
<b>ipv6 pim rp-address</b>	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .	4.2(1)
<b>ipv6 pim ssm range</b>	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .	4.2(1)
<b>ipv6 routing multicast event-history</b>	Added the keyword <b>mfdm-events</b> . Changed the keyword <b>mfdm</b> to <b>mfdm-debug</b> .	4.2(1)
<b>clear ip igmp event-history</b>	This command was introduced.	4.2(1)
<b>clear ip igmp groups</b>	This command was introduced.	4.1(2)
<b>clear ip igmp route</b>	This command was introduced.	4.1(2)
<b>clear ip igmp snooping event-history</b>	This command was introduced.	4.2(1)
<b>clear ip msdp event-history</b>	This command was introduced.	4.2(1)
<b>clear ip pim event-history</b>	This command was introduced.	4.2(1)
<b>clear ip pim route</b>	This command was introduced.	4.2(1)
<b>clear ip routing multicast event-history</b>	This command was introduced.	4.2(1)
<b>clear ipv6 mld groups</b>	This command was introduced.	4.2(1)
<b>clear ipv6 mld route</b>	This command was introduced.	4.2(1)
<b>clear ipv6 pim event-history</b>	This command was introduced.	4.2(1)
<b>clear ipv6 pim route</b>	This command was introduced.	4.2(1)

**Table 1**      **New and Changed Features**

<b>Feature</b>	<b>Description</b>	<b>Changed in Release</b>
<b>clear ipv6 routing multicast event-history</b>	This command was introduced.	4.2(1)
<b>ip igmp enforce-router-alert</b>	This command was introduced.	4.2(1)
<b>ip igmp event-history</b>	This command was introduced.	4.2(1)
<b>ip igmp join-group</b>	Added the keyword <b>route-map</b> and argument <i>policy-name</i>	4.2(1)
<b>ip igmp snooping event-history</b>	This command was introduced.	4.2(1)
<b>ip igmp snooping group-timeout</b>	This command was introduced.	4.2(1)
<b>ip igmp snooping group-timeout (VLAN)</b>	This command was introduced.	4.2(1)
<b>ip igmp snooping link-local-groups-suppression</b>	This command was introduced.	4.2(1)
<b>ip igmp snooping optimise-multicast-flood</b>	This command was introduced.	4.2(1)
<b>ip igmp snooping proxy</b>	This command was introduced.	4.2(1)
<b>ip igmp snooping proxy (VLAN)</b>	This command was introduced.	4.2(1)
<b>ip igmp snooping querier</b>	This command was introduced.	4.2(1)
<b>ip msdp event-history</b>	This command was introduced.	4.2(1)
<b>ip pim event-history</b>	This command was introduced.	4.2(1)
<b>ip pim spt-threshold infinity</b>	This command was introduced.	4.2(1)
<b>ip pim ssm range</b>	This command was introduced.	4.2(1)
<b>ip pim state-limit</b>	This command was introduced.	4.2(1)
<b>ip pim use-shared-tree-only</b>	The keyword <b>group-list</b> was added and a route-map policy name was used to define groups	4.2(1)
<b>ip routing multicast event-history</b>	This command was introduced.	4.2(1)
<b>ipv6 pim event-history</b>	This command was introduced.	4.2(1)
<b>ipv6 pim ssm range</b>	The keyword <b>none</b> was added	4.2(1)
<b>ipv6 pim use-shared-tree-only</b>	Keyword <b>group-list</b> was added and a route-map policy name is used to define groups	4.2(1)
<b>ipv6 routing multicast event-history</b>	This command was introduced.	4.2(1)
<b>ipv6 routing multicast holddown</b>	This command was introduced.	4.2(1)
<b>show ip igmp snooping event-history</b>	This command was introduced.	4.2(1)
<b>ip pim jp-policy</b>	The optional <b>in</b> and <b>out</b> parameters were added.	4.2(3)
<b>ip pim pre-build-spt</b>	This command was introduced.	4.2(3)
<b>ip routing multicast software-replicate</b>	This command was introduced.	4.2(3)
<b>ipv6 pim jp-policy</b>	The optional <b>in</b> and <b>out</b> parameters were added.	4.2(3)
<b>ipv6 routing multicast software-replicate</b>	This command was introduced.	4.2(3)

**Table 1**      **New and Changed Features**

<b>Feature</b>	<b>Description</b>	<b>Changed in Release</b>
<b>ip igmp event-history</b>	Replaced the buffer type keywords <b>debug</b> and <b>event</b> with keywords <b>group-debug</b> s, <b>group-event</b> s, <b>interface-debug</b> s, and <b>interface-event</b> s.	4.1(3)
<b>ip igmp immediate-leave</b>	This command was introduced.	4.1(3)
<b>ip msdp event-history</b>	Changed the buffer type arguments to required.	4.1(3)
<b>ipv6 mld immediate-leave</b>	This command was introduced.	4.1(3)
<b>show forwarding ipv6 multicast route</b>	Added the <i>group-addr</i> and <i>source-addr</i> arguments.	4.1(3)
<b>show ip igmp interface</b>	Changed output to include vPC information when IGMP is in vPC mode.	4.1(3)
<b>show ip igmp snooping mrouter</b>	Changed output to include vPC information.	4.1(3)
<b>show ip igmp snooping statistics</b>	Changed output to include vPC information.	4.1(3)
<b>show ip pim statistics</b>	Changed output to include vPC information when PIM is in vPC mode.	4.1(3)
<b>clear ip igmp interface statistics</b>	This command was introduced.	4.0(3)
<b>clear ip igmp snooping statistics vlan</b>	Added the keyword <b>all</b> .	4.0(3)
<b>clear ip mroute</b>	This command was introduced.	4.0(3)
<b>clear ip msdp route</b>	This command was introduced.	4.0(3)
<b>clear ip msdp sa-cache</b>	This command was removed.	4.0(3)
<b>clear ip pim interface statistics</b>	The interface argument was made optional.	4.0(3)
<b>clear ipv6 mroute</b>	This command was introduced.	4.0(3)
<b>clear ipv6 pim interface statistics</b>	This command was introduced.	4.0(3)
<b>clear routing ipv6 multicast</b>	This command was introduced.	4.0(3)
<b>clear routing multicast</b>	This command was introduced.	4.0(3)
<b>clear ip msdp route</b>	This command was removed.	4.0(3)
<b>ip igmp snooping report-suppression</b>	Global configuration mode was added.	4.0(3)
<b>ip igmp snooping v3-report-suppression (Global)</b>	This command was introduced.	4.0(3)
<b>ip igmp snooping v3-report-suppression (VLAN)</b>	This command was introduced.	4.0(3)
<b>ip msdp peer</b>	The remote AS number was made an optional argument.	4.0(3)
<b>ip pim register-rate-limit</b>	This command was introduced.	4.0(3)
<b>ipv6 pim register-rate-limit</b>	This command was introduced.	4.0(3)
<b>show ip netstack mroute</b>	This command was introduced.	4.0(3)
<b>ip pim bidir-rp-limit</b>	This command was introduced.	4.0(2)
<b>ipv6 pim bidir-rp-limit</b>	This command was introduced.	4.0(2)
<b>clear ip igmp snooping statistics vlan</b>	This command was introduced.	4.0(1)



**Table 1**      *New and Changed Features*

<b>Feature</b>	<b>Description</b>	<b>Changed in Release</b>
<b>clear ip msdp peer</b>	This command was introduced.	4.0(1)
<b>clear ip msdp policy statistics sa-policy</b>	This command was introduced.	4.0(1)
<b>clear ip msdp route</b>	This command was introduced.	4.0(1)
<b>clear ip msdp sa-cache</b>	This command was introduced.	4.0(1)
<b>clear ip msdp statistics</b>	This command was introduced.	4.0(1)
<b>clear ip pim interface statistics</b>	This command was introduced.	4.0(1)
<b>clear ip pim policy statistics</b>	This command was introduced.	4.0(1)
<b>clear ip pim statistics</b>	This command was introduced.	4.0(1)
<b>clear ipv6 pim interface statistics</b>	This command was introduced.	4.0(1)
<b>clear ipv6 pim policy statistics</b>	This command was introduced.	4.0(1)
<b>clear ipv6 pim statistics</b>	This command was introduced.	4.0(1)
<b>feature msdp</b>	This command was introduced.	4.0(1)
<b>feature pim</b>	This command was introduced.	4.0(1)
<b>feature pim6</b>	This command was introduced.	4.0(1)
<b>ip igmp access-group</b>	This command was introduced.	4.0(1)
<b>ip igmp flush-routes</b>	This command was introduced.	4.0(1)
<b>ip igmp group-timeout</b>	This command was introduced.	4.0(1)
<b>ip igmp join-group</b>	This command was introduced.	4.0(1)
<b>ip igmp last-member-query-count</b>	This command was introduced.	4.0(1)
<b>ip igmp last-member-query-response-time</b>	This command was introduced.	4.0(1)
<b>ip igmp query-interval</b>	This command was introduced.	4.0(1)
<b>ip igmp query-max-response-time</b>	This command was introduced.	4.0(1)
<b>ip igmp query-timeout</b>	This command was introduced.	4.0(1)
<b>ip igmp report-link-local-groups</b>	This command was introduced.	4.0(1)
<b>ip igmp report-policy</b>	This command was introduced.	4.0(1)
<b>ip igmp robustness-variable</b>	This command was introduced.	4.0(1)
<b>ip igmp snooping (Global)</b>	This command was introduced.	4.0(1)
<b>ip igmp snooping (VLAN)</b>	This command was introduced.	4.0(1)
<b>ip igmp snooping explicit-tracking</b>	This command was introduced.	4.0(1)
<b>ip igmp snooping fast-leave</b>	This command was introduced.	4.0(1)
<b>ip igmp snooping last-member-query-interval</b>	This command was introduced.	4.0(1)
<b>ip igmp snooping mrouter interface</b>	This command was introduced.	4.0(1)

**Table 1**      *New and Changed Features*

<b>Feature</b>	<b>Description</b>	<b>Changed in Release</b>
<b>ip igmp snooping optimised-multicast-flood</b>	This command was introduced.	4.0(1)
<b>ip igmp snooping report-suppression</b>	This command was introduced.	4.0(1)
<b>ip igmp snooping static-group</b>	This command was introduced.	4.0(1)
<b>ip igmp startup-query-count</b>	This command was introduced.	4.0(1)
<b>ip igmp startup-query-interval</b>	This command was introduced.	4.0(1)
<b>ip igmp state-limit</b>	This command was introduced.	4.0(1)
<b>ip igmp static-oif</b>	This command was introduced.	4.0(1)
<b>ip igmp version</b>	This command was introduced.	4.0(1)
<b>ip mroute</b>	This command was introduced.	4.0(1)
<b>ip msdp description</b>	This command was introduced.	4.0(1)
<b>ip msdp flush-routes</b>	This command was introduced.	4.0(1)
<b>ip msdp group-limit</b>	This command was introduced.	4.0(1)
<b>ip msdp keepalive</b>	This command was introduced.	4.0(1)
<b>ip msdp mesh-group</b>	This command was introduced.	4.0(1)
<b>ip msdp originator-id</b>	This command was introduced.	4.0(1)
<b>ip msdp password</b>	This command was introduced.	4.0(1)
<b>ip msdp peer</b>	This command was introduced.	4.0(1)
<b>ip msdp reconnect-interval</b>	This command was introduced.	4.0(1)
<b>ip msdp sa-interval</b>	This command was introduced.	4.0(1)
<b>ip msdp sa-limit</b>	This command was introduced.	4.0(1)
<b>ip msdp sa-policy in</b>	This command was introduced.	4.0(1)
<b>ip msdp sa-policy out</b>	This command was introduced.	4.0(1)
<b>ip msdp shutdown</b>	This command was introduced.	4.0(1)
<b>ip pim anycast-rp</b>	This command was introduced.	4.0(1)
<b>ip pim auto-rp listen</b>	This command was introduced.	4.0(1)
<b>ip pim auto-rp mapping-agent</b>	This command was introduced.	4.0(1)
<b>ip pim auto-rp mapping-agent-policy</b>	This command was introduced.	4.0(1)
<b>ip pim auto-rp rp-candidate</b>	This command was introduced.	4.0(1)
<b>ip pim auto-rp rp-candidate-policy</b>	This command was introduced.	4.0(1)
<b>ip pim border</b>	This command was introduced.	4.0(1)
<b>ip pim bsr bsr-policy</b>	This command was introduced.	4.0(1)
<b>ip pim bsr-candidate</b>	This command was introduced.	4.0(1)
<b>ip pim bsr forward</b>	This command was introduced.	4.0(1)
<b>ip pim bsr listen</b>	This command was introduced.	4.0(1)

**Table 1**      *New and Changed Features*

<b>Feature</b>	<b>Description</b>	<b>Changed in Release</b>
<b>ip pim bsr rp-candidate-policy</b>	This command was introduced.	4.0(1)
<b>ip pim dr-priority</b>	This command was introduced.	4.0(1)
<b>ip pim flush-routes</b>	This command was introduced.	4.0(1)
<b>ip pim hello-authentication ah-md5</b>	This command was introduced.	4.0(1)
<b>ip pim hello-interval</b>	This command was introduced.	4.0(1)
<b>ip pim jp-policy</b>	This command was introduced.	4.0(1)
<b>ip pim log-neighbor-changes</b>	This command was introduced.	4.0(1)
<b>ip pim neighbor-policy</b>	This command was introduced.	4.0(1)
<b>ip pim register-policy</b>	This command was introduced.	4.0(1)
<b>ip pim rp-address</b>	This command was introduced.	4.0(1)
<b>ip pim rp-candidate</b>	This command was introduced.	4.0(1)
<b>ip pim send-rp-announce</b>	This command was introduced.	4.0(1)
<b>ip pim send-rp-discovery</b>	This command was introduced.	4.0(1)
<b>ip pim sparse-mode</b>	This command was introduced.	4.0(1)
<b>ip pim spt-threshold infinity</b>	This command was introduced.	4.0(1)
<b>ip pim ssm policy</b>	This command was introduced.	4.0(1)
<b>ip pim ssm range</b>	This command was introduced.	4.0(1)
<b>ip pim use-shared-tree-only</b>	This command was introduced.	4.0(1)
<b>ipv6 mld access-group</b>	This command was introduced.	4.0(1)
<b>ipv6 mld group-timeout</b>	This command was introduced.	4.0(1)
<b>ipv6 mld join-group</b>	This command was introduced.	4.0(1)
<b>ipv6 mld last-member-query-count</b>	This command was introduced.	4.0(1)
<b>ipv6 mld last-member-query-response-time</b>	This command was introduced.	4.0(1)
<b>ipv6 mld querier-timeout</b>	This command was introduced.	4.0(1)
<b>ipv6 mld query-interval</b>	This command was introduced.	4.0(1)
<b>ipv6 mld query-max-response-time</b>	This command was introduced.	4.0(1)
<b>ipv6 mld query-timeout</b>	This command was introduced.	4.0(1)
<b>ipv6 mld report-link-local-groups</b>	This command was introduced.	4.0(1)
<b>ipv6 mld report-policy</b>	This command was introduced.	4.0(1)
<b>ipv6 mld robustness-variable</b>	This command was introduced.	4.0(1)
<b>ipv6 mld ssm-translate</b>	This command was introduced.	4.0(1)
<b>ipv6 mld startup-query-count</b>	This command was introduced.	4.0(1)
<b>ipv6 mld startup-query-interval</b>	This command was introduced.	4.0(1)
<b>ipv6 mld state-limit</b>	This command was introduced.	4.0(1)

**Table 1**      *New and Changed Features*

<b>Feature</b>	<b>Description</b>	<b>Changed in Release</b>
<b>ipv6 mld static-oif</b>	This command was introduced.	4.0(1)
<b>ipv6 pim anycast-rp</b>	This command was introduced.	4.0(1)
<b>ipv6 pim border</b>	This command was introduced.	4.0(1)
<b>ipv6 pim bsr bsr-policy</b>	This command was introduced.	4.0(1)
<b>ipv6 pim bsr-candidate</b>	This command was introduced.	4.0(1)
<b>ipv6 pim bsr forward</b>	This command was introduced.	4.0(1)
<b>ipv6 pim bsr listen</b>	This command was introduced.	4.0(1)
<b>ipv6 pim bsr rp-candidate-policy</b>	This command was introduced.	4.0(1)
<b>ipv6 pim dr-priority</b>	This command was introduced.	4.0(1)
<b>ipv6 pim hello-interval</b>	This command was introduced.	4.0(1)
<b>ipv6 pim jp-policy</b>	This command was introduced.	4.0(1)
<b>ipv6 pim log-neighbor-changes</b>	This command was introduced.	4.0(1)
<b>ipv6 pim neighbor-policy</b>	This command was introduced.	4.0(1)
<b>ipv6 pim rp-candidate</b>	This command was introduced.	4.0(1)
<b>ipv6 pim sparse-mode</b>	This command was introduced.	4.0(1)
<b>ipv6 pim ssm range</b>	This command was introduced.	4.0(1)
<b>ipv6 pim state-limit</b>	This command was introduced.	4.0(1)
<b>ipv6 pim use-shared-tree-only</b>	This command was introduced.	4.0(1)
<b>restart igmp</b>	This command was introduced.	4.0(1)
<b>restart msdp</b>	This command was introduced.	4.0(1)
<b>restart pim</b>	This command was introduced.	4.0(1)
<b>restart pim6</b>	This command was introduced.	4.0(1)
<b>show forwarding distribution ip igmp snooping</b>	This command was introduced.	4.0(1)
<b>show forwarding distribution ipv6 multicast route</b>	This command was introduced.	4.0(1)
<b>show forwarding distribution multicast</b>	This command was introduced.	4.0(1)
<b>show forwarding distribution multicast client</b>	This command was introduced.	4.0(1)
<b>show forwarding distribution multicast outgoing-interface-list</b>	This command was introduced.	4.0(1)
<b>show forwarding ipv6 multicast route</b>	This command was introduced.	4.0(1)
<b>show forwarding multicast outgoing-interface-list</b>	This command was introduced.	4.0(1)
<b>show forwarding multicast route</b>	This command was introduced.	4.0(1)

**Table 1**      *New and Changed Features*

<b>Feature</b>	<b>Description</b>	<b>Changed in Release</b>
<b>show ip igmp groups</b>	This command was introduced.	4.0(1)
<b>show ip igmp interface</b>	This command was introduced.	4.0(1)
<b>show ip igmp local-groups</b>	This command was introduced.	4.0(1)
<b>show ip igmp route</b>	This command was introduced.	4.0(1)
<b>show ip igmp snooping</b>	This command was introduced.	4.0(1)
<b>show ip igmp snooping explicit-tracking</b>	This command was introduced.	4.0(1)
<b>show ip igmp snooping groups</b>	This command was introduced.	4.0(1)
<b>show ip igmp snooping mrouter</b>	This command was introduced.	4.0(1)
<b>show ip igmp snooping querier</b>	This command was introduced.	4.0(1)
<b>show ip igmp snooping statistics</b>	This command was introduced.	4.0(1)
<b>show ip mroute</b>	This command was introduced.	4.0(1)
<b>show ip mroute summary</b>	This command was introduced.	4.0(1)
<b>show ip msdp count</b>	This command was introduced.	4.0(1)
<b>show ip msdp mesh-group</b>	This command was introduced.	4.0(1)
<b>show ip msdp peer</b>	This command was introduced.	4.0(1)
<b>show ip msdp policy statistics sa-policy</b>	This command was introduced.	4.0(1)
<b>show ip msdp route</b>	This command was introduced.	4.0(1)
<b>show ip msdp rpf</b>	This command was introduced.	4.0(1)
<b>show ip msdp sa-cache</b>	This command was introduced.	4.0(1)
<b>show ip msdp sources</b>	This command was introduced.	4.0(1)
<b>show ip msdp summary</b>	This command was introduced.	4.0(1)
<b>show ip pim oif-list</b>	This command was introduced.	4.0(1)
<b>show ip pim neighbor</b>	This command was introduced.	4.0(1)
<b>show ip pim interface</b>	This command was introduced.	4.0(1)
<b>show ip pim policy statistics auto-rp</b>	This command was introduced.	4.0(1)
<b>show ip pim policy statistics bsr</b>	This command was introduced.	4.0(1)
<b>show ip pim policy statistics jp-policy</b>	This command was introduced.	4.0(1)
<b>show ip pim policy statistics neighbor-policy</b>	This command was introduced.	4.0(1)
<b>show ip pim policy statistics register-policy</b>	This command was introduced.	4.0(1)
<b>show ip pim route</b>	This command was introduced.	4.0(1)
<b>show ip pim rp</b>	This command was introduced.	4.0(1)
<b>show ip pim rp-hash</b>	This command was introduced.	4.0(1)

**Table 1**      *New and Changed Features*

<b>Feature</b>	<b>Description</b>	<b>Changed in Release</b>
<b>show ip pim statistics</b>	This command was introduced.	4.0(1)
<b>show ipv6 mld groups</b>	This command was introduced.	4.0(1)
<b>show ipv6 mld local-groups</b>	This command was introduced.	4.0(1)
<b>show ipv6 mroute</b>	This command was introduced.	4.0(1)
<b>show ipv6 mroute summary</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim df</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim group-range</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim interface</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim neighbor</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim oif-list</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim policy statistics jp-policy</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim policy statistics neighbor-policy</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim route</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim rp</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim rp-hash</b>	This command was introduced.	4.0(1)
<b>show ipv6 pim statistics</b>	This command was introduced.	4.0(1)
<b>show routing ipv6 multicast</b>	This command was introduced.	4.0(1)
<b>show routing ipv6 multicast clients</b>	This command was introduced.	4.0(1)
<b>show routing multicast</b>	This command was introduced.	4.0(1)
<b>show routing multicast clients</b>	This command was introduced.	4.0(1)
<b>show running-config msdp</b>	This command was introduced.	4.0(1)
<b>show running-config pim</b>	This command was introduced.	4.0(1)
<b>show running-config pim6</b>	This command was introduced.	4.0(1)



# Preface

---

This preface describes the audience, organization, and conventions of the *Cisco Nexus 7000 Series NX-OS Multicast Routing Command Reference*. It also provides information on how to obtain related documentation.

This chapter includes the following sections:

- [Audience, page 1](#)
- [Organization, page 1](#)
- [Document Conventions, page 2](#)
- [Related Documentation, page 3](#)
- [Documentation Feedback, page 4](#)
- [Obtaining Documentation and Submitting a Service Request, page 4](#)

## Audience

This publication is for experienced users who configure and maintain Cisco NX-OS devices.

## Organization

This reference is organized as follows:

Chapter Title	Description
<a href="#">New and Changed Information</a>	Describes the new and changed features.
<a href="#">C Commands</a>	Describes the Cisco NX-OS multicast routing commands that begin with C.
<a href="#">H Commands</a>	Describes the Cisco NX-OS multicast routing commands that begin with H.
<a href="#">I Commands</a>	Describes the Cisco NX-OS multicast routing commands that begin with I.
<a href="#">L Commands</a>	Describes the Cisco NX-OS multicast routing commands that begin with L.

Chapter Title	Description
<a href="#">M Commands</a>	Describes the Cisco NX-OS multicast routing commands that begin with M.
<a href="#">R Commands</a>	Describes the Cisco NX-OS multicast routing commands that begin with R.
<a href="#">Show Commands</a>	Describes the Cisco NX-OS multicast routing show commands.

## Document Conventions

Command descriptions use these conventions:

Convention	Description
<b>boldface font</b>	Commands and keywords are in boldface.
<i>italic font</i>	Arguments for which you supply values are in italics.
[ ]	Elements in square brackets are optional.
[ x   y   z ]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Screen examples use these conventions:

screen font	Terminal sessions and information that the switch displays are in screen font.
<b>boldface screen font</b>	Information you must enter is in boldface screen font.
<i>italic screen font</i>	Arguments for which you supply values are in italic screen font.
< >	Nonprinting characters, such as passwords, are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

This document uses the following conventions:



### Note

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the manual.



### Caution

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.



### Tip

Means *the following information will help you solve a problem*.



# Related Documentation

[Cisco NX-OS](#) includes the following documents:

## Release Notes

*Cisco Nexus 7000 Series NX-OS Release Notes, Release 6.x*

## NX-OS Configuration Guides

*Cisco Nexus 2000 Series Fabric Extender Software Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS Configuration Examples*  
*Cisco Nexus 7000 Series NX-OS FabricPath Configuration Guide*  
*Configuring Feature Set for FabricPath*  
*Cisco Nexus 7000 Series NX-OS Fundamentals Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS High Availability and Redundancy Guide*  
*Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS IP SLAs Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS Layer 2 Switching Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS LISP Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS MPLS Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS Multicast Routing Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS OTV Configuration Guide*  
*Cisco Nexus 7000 Series OTV Quick Start Guide*  
*Cisco Nexus 7000 Series NX-OS Quality of Service Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS SAN Switching Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS Security Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS System Management Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS Unicast Routing Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS Verified Scalability Guide*  
*Cisco Nexus 7000 Series NX-OS Virtual Device Context Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS Virtual Device Context Configuration Guide*  
*Cisco Nexus 7000 Series NX-OS Virtual Device Context Quick Start*  
*Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500*

## NX-OS Command References

*Cisco Nexus 7000 Series NX-OS Command Reference Master Index*  
*Cisco Nexus 7000 Series NX-OS FabricPath Command Reference*  
*Cisco Nexus 7000 Series NX-OS Fundamentals Command Reference*  
*Cisco Nexus 7000 Series NX-OS High Availability Command Reference*

*Cisco Nexus 7000 Series NX-OS Interfaces Command Reference*  
*Cisco Nexus 7000 Series NX-OS IP SLAs Command Reference*  
*Cisco Nexus 7000 Series NX-OS Layer 2 Switching Command Reference*  
*Cisco Nexus 7000 Series NX-OS LISP Command Reference*  
*Cisco Nexus 7000 Series NX-OS MPLS Command Reference*  
*Cisco Nexus 7000 Series NX-OS Multicast Routing Command Reference*  
*Cisco Nexus 7000 Series NX-OS OTV Command Reference*  
*Cisco Nexus 7000 Series NX-OS Quality of Service Command Reference*  
*Cisco Nexus 7000 Series NX-OS SAN Switching Command Reference*  
*Cisco Nexus 7000 Series NX-OS Security Command Reference*  
*Cisco Nexus 7000 Series NX-OS System Management Command Reference*  
*Cisco Nexus 7000 Series NX-OS Unicast Routing Command Reference*  
*Cisco Nexus 7000 Series NX-OS Virtual Device Context Command Reference*  
*Cisco NX-OS FCoE Command Reference for Cisco Nexus 7000 and Cisco MDS 9500*

#### Other Software Documents

*Cisco NX-OS Licensing Guide*  
*Cisco Nexus 7000 Series NX-OS MIB Quick Reference*  
*Cisco NX-OS System Messages Reference*  
*Cisco Nexus 7000 Series NX-OS Software Upgrade and Downgrade Guide*  
*Cisco NX-OS XML Interface User Guide*

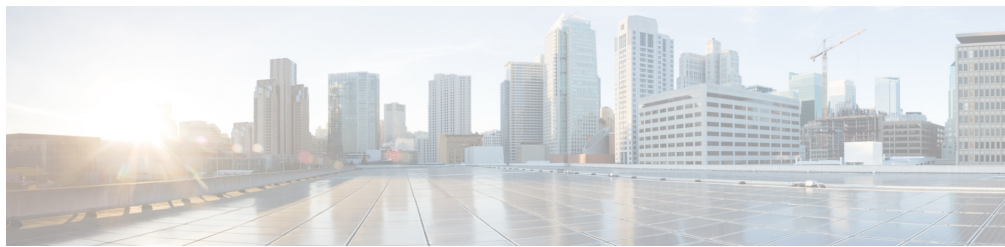
## Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com). We appreciate your feedback

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see [What's New in Cisco Product Documentation](#).

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the [What's New in Cisco Product Documentation RSS feed](#). The RSS feeds are a free service.



# C Commands

---

This chapter describes the Cisco NX-OS multicast routing commands that begin with C.

# clear ip igmp event-history

To clear information in the IGMP event history buffers, use the **clear ip igmp event-history** command.

```
clear ip igmp event-history {cli | debugs | errors | events | ha | igmp-internal | msgs | mtrace |
policy | statistics | vrf}
```

Syntax Description		
<b>cli</b>		Clears the CLI event history buffer.
<b>debugs</b>		Clears the debug event history buffer.
<b>events</b>		Clears the event history buffer.
<b>ha</b>		Clears the HA event history buffer.
<b>igmp-internal</b>		Clears the IGMP internal event history buffer.
<b>msgs</b>		Clears the messages event history buffer.
<b>mtrace</b>		Clears the mtrace event history buffer.
<b>policy</b>		Clears the policy event history buffer.
<b>statistics</b>		Clears the statistics event history buffer.
<b>vrf</b>		Clears the VRF event history buffer.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to clear information in the IGMP HA event history buffer:

```
switch(config)# clear ip igmp event-history ha
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>ip igmp event-history</b>	Configures the size of the IGMP event history buffers.

# clear ip igmp groups

To clear IGMP-related information in the IPv4 multicast routing table, use the **clear ip igmp groups** command.

```
clear ip igmp groups [* | group-prefix | group [source]] [vrf {vrf-name | all}]
```

Syntax Description		
	*	Specifies all routes.
	<i>group-prefix</i>	Group prefix.
	<i>group</i>	Group address.
	<i>source</i>	(Optional) Source (S, G) route.
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines**

The **clear ip igmp route** command is an alternative form of this command.

This command does not require a license.

**Examples** This example shows how to clear all the IGMP-related routes in the IPv4 multicast routing table:

```
switch(config)# clear ip igmp groups *
switch(config)#
```

Related Commands	Command	Description
	clear ip igmp route	Clears IGMP-related information in the IPv4 multicast routing table.
	show ip mroute	Displays information about the IPv4 multicast routing table.

# clear ip igmp interface statistics

To clear the IGMP statistics for an interface, use the **clear ip igmp interface statistics** command.

**clear ip igmp interface statistics** [*if-type if-number*]

<b>Syntax Description</b>	<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>Defaults</b>	None	
<b>Command Modes</b>	Any command mode	
<b>Supported User Roles</b>	network-admin network-operator vdc-admin vdc-operator	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(3)	This command was introduced.
<b>Usage Guidelines</b>	This command does not require a license.	
<b>Examples</b>	This example shows how to clear IGMP statistics for an interface:  switch# <b>clear ip igmp interface statistics ethernet 2/1</b> switch#	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp interface</b>	Displays information about IGMP interfaces.



# clear ip igmp route

To clear IGMP-related information in the IPv4 multicast routing table, use the **clear ip igmp route** command.

```
clear ip igmp route [* | group-prefix | group [source]] [vrf {vrf-name | all}]
```

Syntax Description		
	<b>*</b>	Specifies all routes.
	<i>group-prefix</i>	Group prefix.
	<i>group</i>	Group address.
	<i>source</i>	(Optional) Source (S, G) route.
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** The **clear ip igmp groups** command is an alternative form of this command. This command does not require a license.

**Examples** This example shows how to clear all the IGMP-related routes in the IPv4 multicast routing table:

```
switch(config)# clear ip igmp route *
switch(config)#
```

**clear ip igmp route****Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip igmp groups</b>	Clears IGMP-related information in the IPv4 multicast routing table.
<b>show ip mroute</b>	Displays information about the IPv4 multicast routing table.

# clear ip igmp snooping event-history

To clear information from IGMP snooping event history buffers, use the **clear ip igmp snooping event-history** command.

```
clear ip igmp snooping event-history { vpc | igmp-snoop-internal | mfdm | mfdm-sum | vlan |
vlan-events }
```

Syntax Description	Option	Description
	<b>vpc</b>	Clears the virtual port channel (vPC) event history buffer.
	<b>igmp-snoop-internal</b>	Clears the IGMP snooping internal event history buffer.
	<b>mfdm</b>	Clears the multicast FIB distribution (MFDM) event history buffer.
	<b>mfdm-sum</b>	Clears the MFDM sum event history buffer.
	<b>vlan</b>	Clears the VLAN event history buffer.
	<b>vlan-events</b>	Clears the VLAN-events event history buffer.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to clear information in the IGMP snooping VLAN event history buffer:

```
switch(config)# clear ip igmp event-history vlan
switch(config)#
```

Related Commands	Command	Description
	<b>ip igmp snooping event-history</b>	Configures the size of the IGMP snooping event history buffers.

# clear ip igmp snooping statistics vlan

To clear the IGMP snooping statistics for VLANs, use the **clear ip igmp snooping statistics vlan** command.

```
clear ip igmp snooping statistics vlan {vlan-id | all}
```

## Syntax Description

<i>vlan-id</i>	VLAN number. The range is from 1 to 3967 and 4048 to 4093.
<b>all</b>	Applies to all VLANs.

## Defaults

None

## Command Modes

Any command mode

## Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

## Command History

Release	Modification
4.0(1)	This command was introduced.
4.0(3)	The <b>all</b> keyword was added.

## Usage Guidelines

This command does not require a license.

## Examples

This example shows how to clear IGMP snooping statistics for VLAN 1:

```
switch# clear ip igmp snooping statistics vlan 1
switch#
```

## Related Commands

Command	Description
<b>show ip igmp snooping statistics vlan</b>	Displays IGMP snooping statistics by VLAN.

# clear ip mroute

To clear the multicast routing table, use the **clear ip mroute** command.

```
clear ip mroute [* | group-prefix | group [source]] [vrf {vrf-name | all}]
```

Syntax Description		
*	Specifies all routes.	
<i>group-prefix</i>	Group prefix.	
<i>group</i>	Group address.	
<i>source</i>	(Optional) Source (S, G) route.	
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.	
<b>all</b>	Displays information for all VRFs.	

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(3)	This command was introduced.

**Usage Guidelines** The **clear routing multicast** command is an alternative form of this command. This command does not require a license.

**Examples** This example shows how to clear the multicast routing table:

```
switch(config)# clear ip mroute *
switch(config)#
```

Related Commands	Command	Description
	<b>clear routing multicast</b>	Clears the multicast routing table
	<b>show ip mroute</b>	Displays information about the multicast routing table.

# clear ip msdp event-history

To clear information in the Multicast Source Discovery Protocol (MSDP) event history buffers, use the **clear ip msdp event-history** command.

## clear ip msdp event-history

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to clear information in the MSDP event history buffers:

```
switch(config)# clear ip msdp event-history
switch(config)#
```

Related Commands	Command	Description
	<b>ip msdp event-history</b>	Configures the size of the MSDP event history buffers.
	<b>show ip msdp event-history</b>	Displays information in the MSDP event history buffers.

# clear ip msdp peer

To clear a TCP connection to Multicast Source Discovery Protocol (MSDP) peers, use the **clear ip msdp peer** command.

```
clear ip msdp peer peer-address [vrf vrf-name]
```

Syntax Description	
<i>peer-address</i>	IP address of MSDP peer.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance name.
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to clear a TCP connection to an MSDP peer:

```
switch# clear ip msdp peer 192.168.1.10
switch#
```

Related Commands	Command	Description
	show ip msdp peer	Displays information about MSDP peers.

# clear ip msdp policy statistics sa-policy

To clear the Source-Active (SA) policy for Multicast Source Discovery Protocol (MSDP) peers, use the **clear ip msdp policy statistics sa-policy** command.

```
clear ip msdp policy statistics sa-policy peer-address {in | out} [vrf vrf-name]
```

Syntax Description		
<i>peer-address</i>		IP address of the MSDP peer for the SA policy.
<b>in</b>		Specifies the input policy.
<b>out</b>		Specifies the output policy.
<b>vrf</b>		(Optional) Applies to a virtual routing and forwarding (VRF) instance name.
<i>vrf-name</i>		(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to clear an SA policy for an MSDP peer:

```
switch# clear ip msdp policy statistics sa-policy
switch#
```

Related Commands	Command	Description
	<b>show ip msdp peer</b>	Displays information about MSDP peers.



# clear ip msdp route

To clear routes matching group entries in the Multicast Source Discovery Protocol (MSDP) Source-Active (SA) cache, use the **clear ip msdp route** command.

```
clear ip msdp route [group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	(Optional) All sources for group from the SA-cache.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
<b>all</b>	Applies to all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.0(3)	This command was removed.

**Usage Guidelines** You can also use the **clear ip msdp sa-cache** command for the same function. This command requires the Enterprise Services license.



**Note**

Effective with Cisco NX-OS Release 4.0(3), the **clear ip msdp route** command is not available in Cisco NX-OS software.

**Examples** This example shows how to clear the MSDP SA cache:

```
switch# clear ip msdp route
switch#
```

**clear ip msdp route****Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip msdp sa-cache</b>	Clears the MSDP SA cache.

# clear ip msdp sa-cache

To clear routes matching group entries in the Multicast Source Discovery Protocol (MSDP) Source-Active (SA) cache, use the **clear ip msdp sa-cache** command.

```
clear ip msdp sa-cache [group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	(Optional) All sources for group from the SA-cache.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
<b>all</b>	Applies to all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.0(3)	This command was removed.

**Usage Guidelines** You can also use the **clear ip msdp route** command for the same function. This command requires the Enterprise Services license.



**Note**

Effective with Cisco NX-OS Release 4.0(3), the **clear ip msdp route** command is not available in Cisco NX-OS software.

**Examples** This example shows how to clear the MSDP SA cache:

```
switch# clear ip msdp sa-cache
switch#
```

**clear ip msdp sa-cache****Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip msdp route</b>	Clears the MSDP SA cache.
<b>show ip msdp sa-cache</b>	Displays route information in the MSDP Source-Active cache.

# clear ip msdp statistics

To clear statistics for Multicast Source Discovery Protocol (MSDP) peers, use the **clear ip msdp statistics** command.

```
clear ip msdp statistics [peer-address] [vrf vrf-name]
```

Syntax Description	
<i>peer-address</i>	(Optional) IP address of the MSDP peer.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance name.
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**  
 network-admin  
 network-operator  
 vdc-admin  
 vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to clear MSDP statistics for all MSDP peers:

```
switch# clear ip msdp statistics  
switch#
```

Related Commands	Command	Description
	<b>show ip msdp peer</b>	Displays information about MSDP peers.

# clear ip pim event-history

To clear information in the IPv4 Protocol Independent Multicast (PIM) event history buffers, use the **clear ip pim event-history** command.

## clear ip pim event-history

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to clear information in the PIM event history buffers:

```
switch(config)# clear ip pim event-history
switch(config)#
```

Related Commands	Command	Description
	<b>ip pim event-history</b>	Configures the size of the PIM event history buffers.
	<b>show ip pim event-history</b>	Displays information in the PIM event history buffers.

# clear ip pim interface statistics

To clear Protocol Independent Multicast (PIM) counters for a specified interface, use the **clear ip pim interface statistics** command.

```
clear ip pim interface statistics [if-type if-number]
```

Syntax Description		
<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.	
<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.	

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.0(3)	The interface argument was made optional.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to clear the PIM counters for a specified interface:

```
switch# clear ip pim interface statistics ethernet 2/1
switch#
```

Related Commands	Command	Description
	show ip pim statistics	Displays PIM statistics.

# clear ip pim policy statistics

To clear Protocol Independent Multicast (PIM) policy counters, use the **clear ip pim policy statistics** command.

```
clear ip pim policy statistics {jp-policy | neighbor-policy} if-type if-number
```

```
clear ip pim policy statistics {register-policy | bsr {bsr-policy | rp-candidate-policy} | auto-rp
{rp-candidate-policy | mapping-agent-policy}} [vrf {vrf-name | all}]
```

## Syntax Description

<b>jp-policy</b>	Specifies statistics for the join-prune policy.
<b>neighbor-policy</b>	Specifies statistics for the neighbor policy.
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>register-policy</b>	Specifies statistics for the register policy.
<b>bsr</b>	Specifies the bootstrap protocol RP-distribution policy.
<b>bsr-policy</b>	Specifies the statistics for BSR messages.
<b>rp-candidate-policy</b>	Specifies the statistics for RP candidate messages.
<b>auto-rp</b>	Specifies the statistics for Auto-RP messages.
<b>mapping-agent-policy</b>	Specifies the statistics for mapping agent messages.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
<b>all</b>	Specifies all VRFs.

## Defaults

None

## Command Modes

Any command mode

## Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

## Command History

Release	Modification
4.0(1)	This command was introduced.



**Usage Guidelines**

This command requires the Enterprise Services license.

**Examples**

This example shows how to clear PIM register policy counters:

```
switch# clear ip pim policy statistics register-policy  
switch#
```

**Related Commands**

Command	Description
<code>show ip pim policy statistics</code>	Displays PIM policy statistics.

# clear ip pim route

To clear routes specific to Protocol Independent Multicast for IPv4 (PIM), use the **clear ip pim route** command.

```
clear ip pim route [* | group-prefix | group [source]] [vrf {vrf-name | all}]
```

Syntax Description		
	*	Specifies all routes.
	<i>group-prefix</i>	Group prefix.
	<i>group</i>	Group address.
	<i>source</i>	(Optional) Source (S, G) route.
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to clear all the routes specific to PIM:

```
switch(config)# clear ip pim route *
switch(config)#
```

Related Commands	Command	Description
	<b>show ip pim route</b>	Displays information about PIM specific routes.

# clear ip pim statistics

To clear Protocol Independent Multicast (PIM) statistics counters, use the **clear ip pim statistics** command.

```
clear ip pim statistics [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to clear PIM statistics counters:

```
switch# clear ip pim statistics
switch#
```

Related Commands	Command	Description
	<b>show ip pim statistics</b>	Displays PIM statistics.

# clear ip routing multicast event-history

To clear information in the IPv4 Multicast Routing Information Base (MRIB) event history buffers, use the **clear ip routing multicast event-history** command.

**clear ip routing multicast event-history** {cli | mfdm | mfdm-stats | rib | vrf}

Syntax	Description
<b>cli</b>	Clears the CLI event history buffer.
<b>mfdm</b>	Clears the multicast FIB distribution (MFDM) event history buffer.
<b>mfdm-stats</b>	Clears the MFDM sum event history buffer.
<b>rib</b>	Clears the RIB event history buffer.
<b>vrf</b>	Clears the virtual routing and forwarding VRF event history buffer.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to clear information in the MRIB RIB event history buffer:

```
switch(config)# clear ip routing multicast event-history rib
switch(config)#
```

Related Commands	Command	Description
	<b>ip routing multicast event-history</b>	Configures the size of the IPv4 MRIB event history buffers.
	<b>show routing ip multicast event-history</b>	Displays information in the IPv4 MRIB event history buffers.

# clear ipv6 mld groups

To clear Multicast Listener Discovery (MLD) related information in the IPv6 multicast routing table, use the **clear ipv6 mld groups** command.

```
clear ipv6 [icmp] mld groups [* | group-prefix | group [source]] [vrf {vrf-name | all}]
```

Syntax Description		
<b>icmp</b>	(Optional) clears ICMP information.	
<b>*</b>	Specifies all routes.	
<i>group-prefix</i>	Group prefix.	
<i>group</i>	Group address.	
<i>source</i>	(Optional) Source (S, G) route.	
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.	
<b>all</b>	Specifies all VRFs.	

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** The **clear ipv6 mld route** command is an alternative form of this command. This command does not require a license.

**Examples** This example shows how to clear all the MLD-related routes in the IPv6 multicast routing table:

```
switch(config)# clear ipv6 mld groups *
switch(config)#
```

■ `clear ipv6 mld groups`

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<code>show ipv6 mroute</code>	Displays information about the IPv6 multicast routing table.

---

# clear ipv6 mld route

To clear Multicast Listener Discovery MLD-related information in the IPv6 multicast routing table, use the **clear ipv6 mld route** command.

```
clear ipv6 [icmp] mld route [* | group-prefix | group [source]] [vrf {vrf-name | all}]
```

Syntax Description		
<b>icmp</b>	(Optional) Clears ICMPv6 information.	
<b>*</b>	Specifies all routes.	
<i>group-prefix</i>	Group prefix.	
<i>group</i>	Group address.	
<i>source</i>	(Optional) Source (S, G) route.	
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.	
<b>all</b>	Specifies all VRFs.	

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** The **clear ipv6 mld groups** command is an alternative form of this command. This command does not require a license.

**Examples** This example shows how to clear all the MLD-related routes in the IPv6 multicast routing table:

```
switch(config)# clear ipv6 mld route *
switch(config)#
```

■ `clear ipv6 mld route`

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<code>show ipv6 mroute</code>	Displays information about the IPv6 multicast routing table.

---



# clear ipv6 mroute

To clear routes in the IPv6 multicast routing table, use the **clear ipv6 mroute** command.

```
clear ipv6 mroute { * | group-prefix | group [source] } [vrf { vrf-name | all }]
```

Syntax Description		
*	Specifies all routes.	
<i>group-prefix</i>	Group prefix.	
<i>group</i>	Group address.	
<i>source</i>	(Optional) Source (S, G) route.	
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.	
<b>all</b>	Specifies all VRFs.	

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(3)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to clear all the routes in the IPv6 multicast routing table:

```
switch(config)# clear ipv6 mroute *
switch(config)#
```

Related Commands	Command	Description
	<b>show ipv6 mroute</b>	Displays information about the IPv6 multicast routing table.

# clear ipv6 pim event-history

To clear information in the IPv6 Protocol Independent Multicast (PIM6) event history buffers, use the **clear ipv6 pim event-history** command.

**clear ipv6 pim event-history**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to clear information in the PIM6 event history buffers:

```
switch(config)# clear ipv6 pim event-history
switch(config)#
```

Related Commands	Command	Description
	<b>ipv6 pim event-history</b>	Configures the size of the PIM6 event history buffers.
	<b>show ipv6 pim event-history</b>	Displays information in the PIM6 event history buffers.

# clear ipv6 pim interface statistics

To clear Protocol Independent Multicast for IPv6 (PIM6) counters for a specified interface, use the **clear ipv6 pim interface statistics** command.

```
clear ipv6 pim interface statistics [if-type if-number]
```

Syntax Description		
<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.	
<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.	

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.0(3)	The interface argument was made optional.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to clear PIM6 counters for a specified interface:

```
switch# clear ipv6 pim interface statistics ethernet 2/2
switch#
```

Related Commands	Command	Description
	<b>show ipv6 pim statistics</b>	Displays PIM6 statistics.

# clear ipv6 pim policy statistics

To clear Protocol Independent Multicast for IPv6 (PIM6) policy counters, use the **clear ipv6 pim policy statistics** command.

```
clear ipv6 pim policy statistics {jp-policy | neighbor-policy} if-type if-number
```

Syntax Description		
	<b>jp-policy</b>	Specifies the statistics for join-prune policy.
	<b>neighbor-policy</b>	Specifies the statistics for neighbor policy.
	<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to clear PIM6 join-prune policy counters:

```
switch(config)# clear ipv6 pim policy statistics jp-policy
```

Related Commands	Command	Description
	<b>show ipv6 pim policy statistics</b>	Displays PIM6 policy statistics.

# clear ipv6 pim route

To clear routes specific to Protocol Independent Multicast for IPv6 (PIM6), use the **clear ipv6 pim route** command.

```
clear ipv6 pim route [* | group-prefix | group [source]] [vrf {vrf-name | all}]
```

## Syntax Description

<b>*</b>	Specifies all routes.
<i>group-prefix</i>	Group prefix.
<i>group</i>	Group address.
<i>source</i>	(Optional) Source (S, G) route.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
<b>all</b>	Specifies all VRFs.

## Defaults

None

## Command Modes

Any command mode

## Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

## Command History

Release	Modification
4.1(2)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to clear all the routes specific to PIM6:

```
switch(config)# clear ipv6 pim route *  
switch(config)#
```

## Related Commands

Command	Description
<b>show ipv6 pim route</b>	Displays information about PIM6 specific routes.

# clear ipv6 pim statistics

To clear Protocol Independent Multicast for IPv6 (PIM6) statistics counters, use the **clear ipv6 pim statistics** command.

```
clear ipv6 pim statistics [vrf {vrf-name | all}]
```

Syntax Description		
<b>vrf</b>	(Optional)	Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	(Optional)	VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
<b>all</b>		Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to clear PIM6 statistics counters:

```
switch# clear ipv6 pim statistics
```

Related Commands	Command	Description
	<b>show ipv6 pim statistics</b>	Displays PIM6 statistics.

# clear ipv6 routing multicast event-history

To clear information in the IPv6 Multicast Routing Information Base (M6RIB) event history buffers, use the **clear ipv6 routing multicast event-history** command.

```
clear ipv6 routing multicast event-history {cli | mfdm | mfdm-stats | rib | vrf}
```

Syntax Description	cli	Clears the CLI event history buffer.
	<b>mfdm</b>	Clears the multicast FIB distribution (MFDM) event history buffer.
	<b>mfdm-stats</b>	Clears the MFDM sum event history buffer.
	<b>rib</b>	Clears the RIB event history buffer.
	<b>vrf</b>	Clears the virtual routing and forwarding (VRF) event history buffer.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to clear information in the M6RIB RIB event history buffer:

```
switch(config)# clear ipv6 routing multicast event-history rib
switch(config)#
```

Related Commands	Command	Description
	<b>ipv6 routing multicast event-history</b>	Configures the size of the IPv6 M6RIB event history buffers.
	<b>show routing ipv6 multicast event-history</b>	Displays information in the IPv6 M6RIB event history buffers.

# clear routing ipv6 multicast

To clear the IPv6 multicast routing table, use the **clear routing ipv6 multicast** command.

```
clear routing ipv6 multicast [* | group-prefix | group [source]] [vrf {vrf-name | all}]
```

Syntax Description		
	*	Specifies routes.
	<i>group-prefix</i>	Group prefix.
	<i>group</i>	Group address.
	<i>source</i>	(Optional) Source (S, G) route.
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	(Optional) VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(3)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to clear the IPv6 multicast routing table:

```
switch(config)# clear routing ipv6 multicast *  
switch(config)#
```

Related Commands	Command	Description
	<b>show routing ipv6 multicast</b>	Displays information about IPv6 multicast routes.



# clear routing multicast

To clear the IPv4 multicast routing table, use the **clear routing multicast** command.

```
clear routing [ip | ipv4] multicast {* | group-prefix | group [source]} [vrf {vrf-name | all}]
```

Syntax Description		
<b>ip</b>	(Optional)	Clears IP commands.
<b>ipv4</b>	(Optional)	Clears IPv4 commands.
<b>*</b>		Specifies all routes.
<i>group-prefix</i>		Group prefix.
<i>group</i>		Group address.
<i>source</i>	(Optional)	Source (S, G) route.
<b>vrf</b>	(Optional)	Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	(Optional)	VRF name. The name can be alphanumeric, case sensitive, or a maximum of 32 characters.
<b>all</b>		Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(3)	This command was introduced.

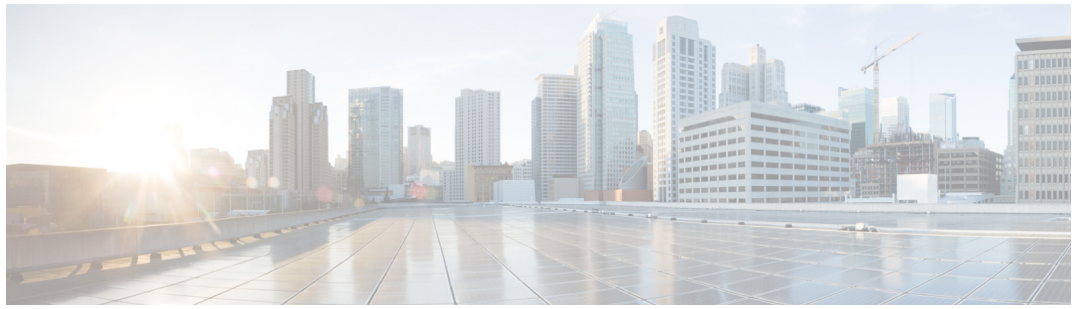
**Usage Guidelines** The **clear ip mroute** command is an alternative form of this command.  
This command does not require a license.

**Examples** This example shows how to clear the IPv4 multicast routing table:

```
switch(config)# clear routing multicast *  
switch(config)#
```

**clear routing multicast**

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>clear ip mroute</b>	Clears the multicast routing table.
	<b>show routing ip multicast</b>	Displays information about IPv4 multicast routes.



## F Commands

---

This chapter describes the Cisco NX-OS multicast routing commands that begin with F.

# feature msdp

To enable the Multicast Source Discovery Protocol (MSDP) feature, use the **feature msdp** command. To disable this feature, use the **no** form of this command.

**feature msdp**

**no feature msdp**

---

**Syntax Description** This command has no arguments or keywords.

---

**Defaults** Disabled

---

**Command Modes** Global configuration mode

---

**SupportedUserRoles** network-admin  
vdc-admin

---

Command History	Release	Modification
	4.0(1)	This command was introduced.

---



---

**Usage Guidelines** This command requires the Enterprise Services License.

---

**Examples** This example shows how to enable the MSDP feature:

```
switch(config)# feature msdp
switch(config)#
```

---

Related Commands	Command	Description
	<b>show ip pim vrf</b>	Displays the per VRF information.

---

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

## feature pim

To enable the Protocol Independent Multicast (PIM) feature, use the **feature pim** command. To disable this feature, use the **no** form of this command.

**feature pim**

**no feature pim**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Global configuration mode

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services License.

**Examples** This example shows how to enable the PIM:

```
switch(config)# feature pim
switch(config)#
```

Related Commands	Command	Description
	<b>show ip pim route</b>	Displays the PIM route specific information.

# feature pim6

To enable the Protocol Independent Multicast (PIM) for IPv6 feature, use the **feature pim6** command. To disable this feature, use the **no** form of this command.

**feature pim6**

**no feature pim6**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Global configuration mode

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services License.

**Examples** The example shows how to enable the PIM for IPv6:

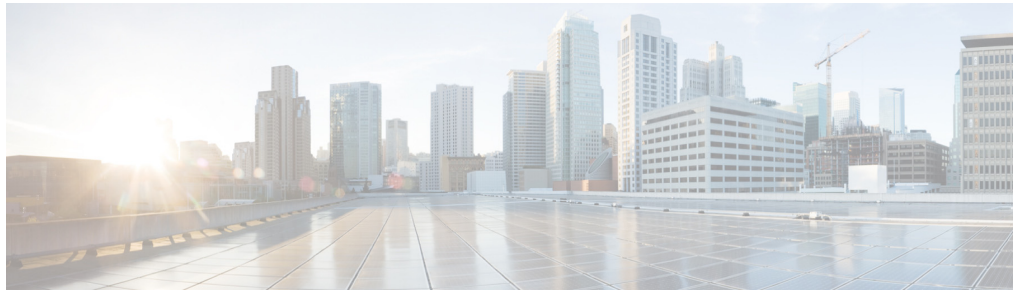
```
switch(config)# feature pim6
switch(config)#
```

Related Commands	Command	Description
	<b>show ip msdp summary</b>	Displays the summary of MSDP peers.

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***







# H Commands

---

This chapter describes the Cisco NX-OS multicast routing commands that begin with H.

# hardware fabric flow-control multicast

To enable the Cisco Nexus 7000 Series switch to handle multicast traffic more efficiently in microbursting environments, use the **hardware fabric flow-control multicast** command. To disable this feature, use the **no** form of this command.

**hardware fabric flow-control multicast** [**all-modules** | **forced** | **module** *module-number*]

**no sampler hardware fabric flow-control multicast** [**all-modules** | **forced** | **module** *module-number*]

Syntax Description		
	<b>all-modules</b>	(Optional) Specifies the fabric flow-control on all modules.
	<b>forced</b>	(Optional) Specifies the fabric flow-control mandatorily.
	<b>module</b>	(Optional) Specifies the fabric flow-control to individual module(s).
	<i>module-number</i>	Specifies module number. The range is from 1 to 18.

**Defaults** None.

**Command Modes** Global configuration

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

**Usage Guidelines** None.  
This command does not require a license.

**Examples** This example shows how to configure fabric flow control on all modules:

```
switch(config)# hardware fabric flow-control multicast all-modules forced
switch(config)#
```

Related Commands	Command	Description
	<b>show system internal xbar fabric-flow-control-info</b>	Displays the hardware information.

# hardware forwarding shim

To enable the hardware forwarding shim header knob, use the **hardware forwarding shim** command. To disable this feature, use the **no** form of this command.

**hardware forwarding shim**

**no hardware forwarding shim**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None.

**Command Modes** Global configuration mode

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	6.2(2)	This command was introduced.

**Usage Guidelines** None.  
This command does not require a license.

**Examples** This example shows how to enable the hardware forwarding shim:

```
switch# config t
switch(config)# hardware forwarding shim
Disabling shim knob on vdc 1
switch(config)#
```

Related Commands	Command	Description
	<b>show system internal xbar fabric-flow-control-info</b>	Displays the hardware information.

# hardware proxy layer-3 replication rebalance-mode

To configure the hardware proxy Layer 3 multicast balance mode for replication, use the **hardware proxy layer-3 replication rebalance-mode** command. To disable this feature, use the **no** form of this command.

**hardware proxy layer-3 replication rebalance-mode** { **auto** | **manual** }

**no hardware proxy layer-3 replication rebalance-mode** { **auto** | **manual** }

## Syntax Description

<b>auto</b>	Specifies to automatically rebalance VLAN interfaces on available replicators.
<b>manual</b>	Specifies to manually rebalance VLAN interfaces on available replicators using the command-line interface (CLI).

## Defaults

Manual

## Command Modes

Global configuration mode

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
5.1(1)	This command was introduced.

## Usage Guidelines

This command applies only to the Cisco Nexus 7000 Series chassis that contains an F1 Series module or an M1 Series module. This command applies when you are using either a FabricPath or Ethernet interface.



### Note

The system automatically balances all Layer 3 routing traffic among the available proxy routing interfaces on the M Series modules in the chassis.

This command does not require a license.

## Examples

This example shows how to automatically rebalance VLAN interfaces on available replicators:

```
switch(config)# hardware proxy layer-3 replication rebalance-mode auto
switch(config)#
```

This example shows how to manually rebalance VLAN interfaces on available replicators using the CLI:

```
switch(config)# hardware proxy layer-3 replication rebalance-mode manual
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show hardware proxy layer-3 detail</b>	Displays detailed information on the proxy Layer 3 functionality.

# hardware proxy layer-3 replication

To configure specific modules and physical interfaces on the N7K-M Series module to provide the proxy routing for egress replication of Layer 3 multicast packets on the N7K-F Series module, use the **hardware proxy layer-3 replication** command. To delete the user configuration and to use all M-series modules in the virtual device context (VDC) for egress replication, use the **no** form of this command.

**hardware proxy layer-3 replication** {**exclude** | **use**} {**interface ethernet** *slot/port* | **module** *slot-number*} [**module-type f1**]

**no hardware proxy layer-3 replication**

## Syntax Description

<b>exclude</b>	Specifies all available members.
<b>use</b>	Specifies members.
<b>interface</b>	Specifies interfaces.
<b>ethernet</b>	Specifies the ethernet interface.
<i>slot/port</i>	Slot or port number. The range is from 1 to 253.
<b>module</b>	Specifies modules.
<i>slot-number</i>	Slot number. The range is from 1 to 18.
<b>module-type f1</b>	(Optional) Specifies the type of modules to perform proxy Layer 3 replication.

## Defaults

None

## Command Modes

Global configuration mode

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
5.1(1)	This command was introduced.

## Usage Guidelines

This command applies only to the Cisco Nexus 7000 Series chassis that contains an F1 Series module or an M1 Series module. This command applies when you are using either a FabricPath or Ethernet interface.

This command does not require a license.

## Examples

The example shows how to configure a service group timeout in seconds:

```
switch(config)# hardware proxy layer-3 replication exclude interface ethernet 2/1-16,
ethernet 3/1, ethernet 4/1-2
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show hardware proxy layer-3 detail</b>	Displays detailed information on the proxy Layer 3 functionality.

# hardware proxy layer-3 replication trigger rebalance

To trigger one-time load balancing among all the proxy routing multicast replication interfaces, use the **hardware proxy layer-3 replication trigger rebalance** command.

## hardware proxy layer-3 replication trigger rebalance

**Syntax Description** This command has no arguments or keywords.

**Defaults** Manual

**Command Modes** EXEC mode

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	5.1(1)	This command was introduced.

**Usage Guidelines** This command applies only to the Cisco Nexus 7000 Series chassis that contains an F1 Series module or an M1 Series module. This command applies when you are using either a FabricPath or Ethernet interface. This command does not require a license.

**Examples** This example shows how to configure load balancing among the proxy routing replication interfaces:

```
switch# hardware proxy layer-3 replication trigger rebalance
switch#
```

Related Commands	Command	Description
	<b>show hardware proxy layer-3 detail</b>	Displays detailed information on the proxy Layer 3 functionality.





# I Commands

---

This chapter describes the Cisco NX-OS multicast routing commands that begin with I.

## ip igmp access-group

To enable a route-map policy to control the multicast groups that hosts on the subnet serviced by an interface can join, use the **ip igmp access-group** command. To disable the route-map policy, use the **no** form of this command.

**ip igmp access-group** *policy-name*

**no ip igmp access-group** [*policy-name*]

<b>Syntax Description</b>	<i>policy-name</i> Route-map policy name.				
<b>Defaults</b>	Disabled				
<b>Command Modes</b>	Interface configuration (config-if)				
<b>Supported User Roles</b>	network-admin vdc-admin				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>4.0(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	4.0(1)	This command was introduced.
Release	Modification				
4.0(1)	This command was introduced.				
<b>Usage Guidelines</b>	The <b>ip igmp access-group</b> command is an alias of the <b>ip igmp report-policy</b> command. This command requires the Enterprise Services license.				
<b>Examples</b>	<p>This example shows how to enable a route-map policy:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# ip igmp access-group my_access_group_policy switch(config-if)#</pre> <p>This example shows how to disable a route-map policy:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no ip igmp access-group switch(config-if)#</pre>				
<b>Related Commands</b>	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><b>show ip igmp interface</b></td> <td>Displays IGMP information about the interface.</td> </tr> </tbody> </table>	Command	Description	<b>show ip igmp interface</b>	Displays IGMP information about the interface.
Command	Description				
<b>show ip igmp interface</b>	Displays IGMP information about the interface.				

# ip igmp enforce-router-alert

To enable the enforce router alert option check for IGMPv2 and IGMPv3 packets, use the **ip igmp enforce-router-alert** command. To disable the option check, use the **no** form of this command.

**ip igmp enforce-router-alert**

**no ip igmp enforce-router-alert**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to enable the enforce router alert option check:

```
switch(config)# ip igmp enforce-router-alert
```

This example shows how to disable the enforce router alert option check:

```
switch(config)# no ip igmp enforce-router-alert
```

Related Commands	Command	Description
	<b>show running-config igmp</b>	Displays information about the IGMP running-system configuration.

## ip igmp event-history

To configure the size of the IGMP event history buffers, use the **ip igmp event-history** command. To revert to the default buffer size, use the **no** form of this command.

```
ip igmp event-history { clis | errors | group-debugs | group-events | ha | igmp-internal |
interface-debugs | interface-events | msgs | mtrace | policy | statistics | vrf } size buffer-size
```

```
no ip igmp event-history { clis | errors | group-debugs | group-events | ha | igmp-internal |
interface-debugs | interface-events | msgs | mtrace | policy | statistics | vrf } size buffer-size
```

### Syntax Description

<b>clis</b>	Configures the IGMP CLI event history buffer size.
<b>errors</b>	Configures the error event history buffer size.
<b>group-debug</b> s	Configures the IGMP group debug event history buffer size.
<b>group-event</b> s	Configures the IGMP group-event event history buffer size.
<b>ha</b>	Configures the IGMP HA event history buffer size.
<b>igmp-internal</b>	Configures the IGMP IGMP-internal event history buffer size.
<b>interface-debug</b> s	Configures the IGMP interface debug event history buffer size.
<b>interface-event</b> s	Configures the IGMP interface-event event history buffer size.
<b>msg</b> s	Configures the message event history buffer size.
<b>mtrace</b>	Configures the IGMP mtrace event history buffer size.
<b>policy</b>	Configures the IGMP policy event history buffer size.
<b>statistics</b>	Configures the statistics event history buffer size.
<b>vrf</b>	Configures the IGMP VRF event history buffer size.
<b>size</b>	Specifies the size of the buffer to allocate.
<i>buffer-size</i>	Buffer size that is one of the following values: <b>disabled</b> , <b>large</b> , <b>medium</b> , or <b>small</b> . The default buffer size is <b>small</b> .

### Defaults

All history buffers are allocated as small.

### Command Modes

Any command mode

### Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.
	4.1(3)	Replaced the buffer type keywords <b>debug</b> and <b>event</b> with keywords <b>group-debug</b> s, <b>group-event</b> s, <b>interface-debug</b> s, and <b>interface-event</b> s.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to configure the IGMP HA event history buffer size:

```
switch(config)# ip igmp event-history ha size large
switch(config)#
```

Related Commands	Command	Description
	<b>clear ip igmp event-history</b>	Clears the contents of IGMP event history buffers.
	<b>show ip igmp event-history</b>	Displays information in the IGMP event history buffers.
	<b>show running-config igmp</b>	Displays information about the IGMP running-system configuration.

# ip igmp flush-routes

To remove routes when the IGMP process is restarted, use the **ip igmp flush-routes** command. To leave routes in place, use the **no** form of this command.

**ip igmp flush-routes**

**no ip igmp flush-routes**

**Syntax Description** This command has no arguments or keywords.

**Defaults** The routes are not flushed.

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** To display whether flush routes are configured, use this command line:

```
switch(config)# show running-config | include flush-routes
```

This command does not require a license.

**Examples** This example shows how to remove routes when the IGMP process is restarted:

```
switch(config)# ip igmp flush-routes
```

This example shows how to leave routes in place when the IGMP process is restarted:

```
switch(config)# no ip igmp flush-routes
```

Related Commands	Command	Description
	<b>show running-config</b>	Displays information about the running-system configuration.

# ip igmp group-timeout

To configure a group membership timeout for IGMPv2, use the **ip igmp group-timeout** command. To return to the default timeout, use the **no** form of this command.

**ip igmp group-timeout** *timeout*

**no ip igmp group-timeout** [*timeout*]

<b>Syntax Description</b>	<i>timeout</i> Timeout in seconds. The range is from 3 to 65,535. The default is 260.
---------------------------	---

<b>Defaults</b>	The group membership timeout is 260 seconds.
-----------------	--

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to configure a group membership timeout:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# ip igmp group-timeout 200 switch(config-if)#</pre> <p>This example shows how to reset a group membership timeout to the default:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no ip igmp group-timeout switch(config-if)#</pre>
-----------------	---

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip igmp immediate-leave

To enable the device to remove the group entry from the multicast routing table immediately upon receiving a leave message for the group, use the **ip igmp immediate-leave** command. To disable the immediate leave option, use the **no** form of this command.

**ip igmp immediate-leave**

**no ip igmp immediate-leave**

**Syntax Description** This command has no arguments or keywords.

**Defaults** The immediate leave feature is disabled.

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.1(3)	This command was introduced.

**Usage Guidelines** Use the **ip igmp immediate-leave** command only when there is one receiver behind the interface for a given group.

This command does not require a license.

**Examples** This example shows how to enable the immediate leave feature:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp immediate-leave
```

This example shows how to disable the immediate leave feature:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp immediate-leave
```

Related Commands	Command	Description
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.



# ip igmp join-group

To statically bind a multicast group to an interface, use the **ip igmp join-group** command. To remove a group binding, use the **no** form of this command.

**ip igmp join-group** {*group* [**source** *source*] | **route-map** *policy-name*}

**no ip igmp join-group** {*group* [**source** *source*] | **route-map** *policy-name*}

## Syntax Description

<i>group</i>	Multicast group IP address.
<b>source</b> <i>source</i>	(Optional) Configures a source IP address for the IGMPv3 (S,G) channel.
<b>route-map</b> <i>policy-name</i>	Specifies the route-map policy name that defines the group prefixes where this feature is applied.

## Defaults

None

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.
4.2(1)	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .

## Usage Guidelines

If you specify only the group address, the (\*, G) state is created. If you specify the source address, the (S, G) state is created.



### Note

A source tree is built for the (S, G) state only if you enable IGMPv3.

If you use the route map, the only **match** command that is read from the route map is the **match ip multicast** command. You can specify the group prefix and source prefix.

Beginning with Cisco NX-OS Release 5.2, if **ip igmp join-group** is configured under any interface, other interfaces will be removed from the outgoing interface list (OIL) resulting in multicast packet loss. The command **ip igmp join-group** must be only used for testing and must not be present on a production device. Use the **ip igmp static-oif** command instead.



### Caution

When you enter this command, the traffic generated is handled by the device CPU, not the hardware.

This command does not require a license.

**Examples**

This example shows how to statically bind a group to an interface:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp join-group 230.0.0.0
switch(config-if)#
```

This example shows how to remove a group binding from an interface:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp join-group 230.0.0.0
switch(config-if)#
```

**Related Commands**

Command	Description
<b>show ip igmp interface</b>	Displays IGMP information about the interface.
<b>ip igmp static-oif</b>	Statically binds a multicast group to the OIF.

# ip igmp last-member-query-count

To configure the number of times that the software sends an IGMP query in response to a host leave message, use the **ip igmp last-member-query-count** command. To reset the query interval to the default, use the **no** form of this command.

**ip igmp last-member-query-count** *count*

**no ip igmp last-member-query-count** [*count*]

<b>Syntax Description</b>	<i>count</i> Query count. The range is from 1 to 5. The default is 2.
---------------------------	---

<b>Defaults</b>	The query count is 2.
-----------------	-----------------------

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to configure a query count:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# ip igmp last-member-query-count 3 switch(config-if)#</pre> <p>This example shows how to reset a query count to the default:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no ip igmp last-member-query-count switch(config-if)#</pre>
-----------------	---

<b>Related Commands</b>	<table border="1"> <thead> <tr> <th><b>Command</b></th> <th><b>Description</b></th> </tr> </thead> <tbody> <tr> <td><b>show ip igmp interface</b></td> <td>Displays IGMP information about the interface.</td> </tr> </tbody> </table>	<b>Command</b>	<b>Description</b>	<b>show ip igmp interface</b>	Displays IGMP information about the interface.
<b>Command</b>	<b>Description</b>				
<b>show ip igmp interface</b>	Displays IGMP information about the interface.				

# ip igmp last-member-query-response-time

To configure a query interval in which the software sends membership reports and then deletes the group state, use the **ip igmp last-member-query-response-time** command. To reset the query interval to the default, use the **no** form of this command.

**ip igmp last-member-query-response-time** *interval*

**no ip igmp last-member-query-response-time** [*interval*]

Syntax Description	<i>interval</i>	Query interval in seconds. The range is from 1 to 25. The default is 1.
--------------------	-----------------	---

Defaults	The query interval is 1 second.
----------	---------------------------------

Command Modes	Interface configuration (config-if)
---------------	-------------------------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines	This command does not require a license.
------------------	--

Examples	This example shows how to configure a query interval:
----------	---

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp last-member-query-response-time 3
switch(config-if)#
```

This example shows how to reset a query interval to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp last-member-query-response-time
switch(config-if)#
```

Related Commands	Command	Description
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip igmp query-interval

To configure a query interval used when the IGMP process starts up, use the **ip igmp query-interval** command. To reset the query interval to the default, use the **no** form of this command.

**ip igmp query-interval** *interval*

**no ip igmp query-interval** [*interval*]

<b>Syntax Description</b>	<i>interval</i> Interval in seconds. The range is from 1 to 18,000. The default is 125.
---------------------------	---

<b>Defaults</b>	The query interval is 125 seconds.
-----------------	------------------------------------

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

**Examples** This example shows how to configure a query interval:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp query-interval 100
switch(config-if)#
```

This example shows how to reset a query interval to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp query-interval
switch(config-if)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip igmp query-max-response-time

To configure a query maximum response time that is advertised in IGMP queries, use the **ip igmp query-max-response-time** command. To reset the response time to the default, use the **no** form of this command.

**ip igmp query-max-response-time** *time*

**no ip igmp query-max-response-time** [*time*]

<b>Syntax Description</b>	<i>time</i>	Query maximum response time in seconds. The range is from 1 to 25. The default is 10.
---------------------------	-------------	---

**Defaults** The query maximum response time is 10 seconds.

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to configure a query maximum response time:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp query-max-response-time 15
switch(config-if)#
```

This example shows how to reset a query maximum response time to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp query-max-response-time
switch(config-if)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip igmp query-timeout

To configure a query timeout that the software uses when deciding to take over as the querier, use the **ip igmp query-timeout** command. To reset to the querier timeout to the default, use the **no** form of this command.

**ip igmp query-timeout** *timeout*

**no ip igmp query-timeout** [*timeout*]

<b>Syntax Description</b>	<i>timeout</i>	Timeout in seconds. The range is from 1 to 65,535. The default is 255.
---------------------------	----------------	--

<b>Defaults</b>	The query timeout is 255 seconds.	
-----------------	-----------------------------------	--

<b>Command Modes</b>	Interface configuration (config-if)	
----------------------	-------------------------------------	--

<b>SupportedUserRoles</b>	network-admin vdc-admin	
---------------------------	----------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.	
-------------------------	--	--

<b>Examples</b>	This example shows how to configure a query timeout:	
	<pre>switch(config)# interface ethernet 2/2 switch(config-if)# ip igmp query-timeout 200 switch(config-if)#</pre>	

This example shows how to reset a query timeout to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp query-timeout
switch(config-if)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip igmp report-link-local-groups

To enable IGMP to send reports for link-local groups, use the **ip igmp report-link-local-groups** command. To disable sending reports to link-local groups, use the **no** form of this command.

**ip igmp report-link-local-groups**

**no ip igmp report-link-local-groups**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to enable sending reports to link-local groups:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp report-link-local-groups
switch(config-if)#
```

This example shows how to disable sending reports to link-local groups:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp report-link-local-groups
switch(config-if)#
```

Related Commands	Command	Description
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.



# ip igmp report-policy

To enable an access policy that is based on a route-map policy for IGMP reports, use the **ip igmp report-policy** command. To disable the route-map policy, use the **no** form of this command.

```
ip igmp report-policy policy-name
no ip igmp report-policy [policy-name]
```

<b>Syntax Description</b>	<i>policy-name</i> Route-map policy name. The policy name is case sensitive alphanumeric, maximum size is 32 characters.
---------------------------	--

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines**

Use the **ip igmp report-policy** command to filter incoming messages. You can configure the route map to prevent a state from being created in the multicast routing table.

The **ip igmp report-policy** command is an alias of the **ip igmp access-group** command.

If you use the route map, the only **match** command that is read from the route map is the **match ip multicast** command. You can specify the group prefix, group range, and source prefix to filter messages.

This command requires the Enterprise Services license.

**Examples**

This example shows how to enable an access policy for IGMP reports:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp report-policy my_report_policy
switch(config-if)#
```

This example shows how to disable an access policy for IGMP reports:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp report-policy
switch(config-if)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp interface</b>	Displays IGMP information about the interface.

---

# ip igmp robustness-variable

To configure a robustness count that you can tune to reflect expected packet loss on a congested network, use the **ip igmp robustness-variable** command. To reset the count to the default, use the **no** form of this command.

**ip igmp robustness-variable** *count*

**no ip igmp robustness-variable** [*count*]

<b>Syntax Description</b>	<i>count</i>	Robustness count. The range is from 1 to 7. The default is 2.
---------------------------	--------------	---

<b>Defaults</b>	The robustness count is 2.	
-----------------	----------------------------	--

<b>Command Modes</b>	Interface configuration (config-if)	
----------------------	-------------------------------------	--

<b>SupportedUserRoles</b>	network-admin vdc-admin	
---------------------------	----------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.	
-------------------------	--	--

<b>Examples</b>	<p>This example shows how to configure a robustness count:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# ip igmp robustness-variable 3 switch(config-if)#</pre> <p>This example shows how to reset a robustness count to the default:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no ip igmp robustness-variable switch(config-if)#</pre>	
-----------------	---	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip igmp snooping (Global)

To enable IGMP snooping for the current virtual device context (VDC), use the **ip igmp snooping** command. To disable IGMP snooping for the current VDC, use the **no** form of this command.

**ip igmp snooping**

**no ip igmp snooping**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** If the global configuration of IGMP snooping is disabled, all VLANs are treated as disabled, whether they are enabled or not.

This command does not require a license.

**Examples** This example shows how to enable IGMP snooping for the current VDC:

```
switch(config)# ip igmp snooping
switch(config)#
```

This example shows how to disable IGMP snooping for the current VDC:

```
switch(config)# no ip igmp snooping
switch(config)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping (VLAN)

To enable IGMP snooping on specified VLAN interfaces, use the **ip igmp snooping** command. To disable IGMP snooping on the interface, use the **no** form of this command.

**ip igmp snooping**

**no ip igmp snooping**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** VLAN configuration (config-vlan) mode (until Cisco NX-OS Release 5.1)  
 Configure VLAN (config-vlan-config) mode (Since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.)

**SupportedUserRoles** network-admin  
 vdc-admin

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.0(1)	This command was introduced.

**Usage Guidelines** If the global configuration of IGMP snooping is disabled, all VLANs are treated as disabled, whether they are enabled or not.  
 See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.  
 This command does not require a license.

**Examples** This example shows how to enable IGMP snooping on a VLAN interface:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# ip igmp snooping
switch(config-vlan-config)# ]
```

This example shows how to disable IGMP snooping on a VLAN interface:

```
switch(config)# vlan configuration 10
switch(config-vlan)# no ip igmp snooping
switch(config-vlan-config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping event-history

To configure the size of the IGMP snooping event history buffers, use the **ip igmp snooping event-history** command. To revert to the default buffer size, use the **no** form of this command.

**ip igmp snooping event-history** { **vpc** | **igmp-snoop-internal** | **mfdm** | **mfdm-sum** | **vlan** | **vlan-events** } **size** *buffer-size*

**no ip igmp snooping event-history** { **vpc** | **igmp-snoop-internal** | **mfdm** | **mfdm-sum** | **vlan** | **vlan-events** } **size** *buffer-size*

Syntax Description		
<b>vpc</b>		Clears the virtual port channel (vPC) event history buffer.
<b>igmp-snoop-internal</b>		Clears the IGMP snooping internal event history buffer.
<b>mfdm</b>		Clears the Multicast Forwarding Distribution Module (MFDM) event history buffer.
<b>mfdm-sum</b>		Clears the MFDM sum event history buffer.
<b>vlan</b>		Clears the VLAN event history buffer.
<b>vlan-events</b>		Clears the VLAN-event event history buffer.
<b>size</b>		Specifies the size of the buffer to allocate.
<i>buffer-size</i>		Buffer size that is one of the following values: <b>disabled</b> , <b>large</b> , <b>medium</b> , or <b>small</b> . The default buffer size is <b>small</b> .

**Defaults** All history buffers are allocated as small.

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to configure the IGMP snooping VLAN event history buffer size:

```
switch(config)# ip igmp snooping event-history vlan size large
switch(config)#
```

Related Commands	Command	Description
	<b>clear ip igmp snooping event-history</b>	Clears the contents of the IGMP snooping event history buffers.
	<b>show ip igmp snooping event-history</b>	Displays information in the IGMP snooping event history buffers.
	<b>show running-config igmp</b>	Displays information about the IGMP running-system configuration.



# ip igmp snooping explicit-tracking

To enable tracking of IGMPv3 membership reports from individual hosts for each port on a per-VLAN basis, use the **ip igmp snooping explicit-tracking** command. To disable tracking, use the **no** form of this command.

**ip igmp snooping explicit-tracking**

**no ip igmp snooping explicit-tracking**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** VLAN configuration (config-vlan) (until Cisco NX-OS Release 5.1)  
 Configure VLAN (config-vlan-config) mode (Since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher).

**SupportedUserRoles** network-admin  
 vdc-admin

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.  
 See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.

**Examples** This example shows how to enable tracking of IGMPv3 membership reports on a VLAN interface:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# ip igmp snooping explicit-tracking
switch(config-vlan-config)#
```

This example shows how to disable IGMP snooping on a VLAN interface:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# no ip igmp snooping explicit-tracking
switch(config-vlan-config)#
```

**ip igmp snooping explicit-tracking****Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping fast-leave

To enable support of IGMPv2 hosts that cannot be explicitly tracked because of the host report suppression mechanism of the IGMPv2 protocol, use the **ip igmp snooping fast-leave** command. To disable support of IGMPv2 hosts, use the **no** form of this command.

**ip igmp snooping fast-leave**

**no ip igmp snooping fast-leave**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** VLAN configuration (config-vlan) mode (until Cisco NX-OS Release 5.1)  
 Configure VLAN (config-vlan-config) mode (Since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher).

**SupportedUserRoles** network-admin  
 vdc-admin

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.0(1)	This command was introduced.

**Usage Guidelines** When you enable fast leave, the IGMP software assumes that no more than one host is present on each VLAN port.  
 See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.  
 This command does not require a license.

**Examples** This example shows how to enable support of IGMPv2 hosts:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# ip igmp snooping fast-leave
switch(config-vlan-config)#
```

This example shows how to disable support of IGMPv2 hosts:

```
switch(config)# vlan configuration 10
```

## ■ ip igmp snooping fast-leave

```
switch(config-vlan-config)# no ip igmp snooping fast-leave
switch(config-vlan-config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp snooping</b>	Displays IGMP snooping information.

---

# ip igmp snooping group-timeout

To configure group membership timeout in all VLANs, use the **ip igmp snooping group-timeout** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping group-timeout** *timeout* | **never**

**no ip igmp snooping group-timeout** *timeout*

Syntax Description	timeout	Never expire ports from group membership.
	Timeout in minutes. The range is from 1 to 10080.	
	never	Never expire ports from group membership.

**Defaults** None

**Command Modes** Global Configuration mode

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to configure group membership timeout in all VLANs:

```
switch(config)# ip igmp snooping group-timeout 100
switch(config)#
```

Related Commands	Command	Description
	show ip igmp snooping	Displays IGMP snooping information.

## ip igmp snooping group-timeout (VLAN)

To configure group membership timeout in all VLANs, use the **ip igmp snooping group-timeout** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping group-timeout** *timeout* | **never**

**no ip igmp snooping group-timeout** *timeout*

Syntax Description	Timeout	Description
	<i>timeout</i>	Timeout in minutes. The range is from 1 to 10080.
	<b>never</b>	Never expire ports from group membership.

**Defaults** None

**Command Modes** VLAN configuration (config-vlan) mode (until Cisco NX-OS Release 5.1)  
 Configure VLAN (config-vlan-config) mode (Since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher).

**Supported User Roles** network-admin  
 vdc-admin

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.1(2)	This command was introduced.

**Usage Guidelines** When you enable fast leave, the IGMP software assumes that no more than one host is present on each VLAN port.

See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.

This command does not require a license.

**Examples** This example shows how to configure group membership timeout in all VLANs:

```
switch(config)# ip igmp snooping group-timeout 100
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping last-member-query-interval

To configure a query interval in which the software removes a group, use the **ip igmp snooping last-member-query-interval** command. To reset the query interval to the default, use the **no** form of this command.

```
ip igmp snooping last-member-query-interval [interval]
```

```
no ip igmp snooping last-member-query-interval [interval]
```

<b>Syntax Description</b>	<i>interval</i> Query interval in seconds. The range is from 1 to 25. The default is 1.
---------------------------	---

<b>Defaults</b>	The query interval is 1.
-----------------	--------------------------

<b>Command Modes</b>	VLAN configuration (config-vlan) until Cisco NX-OS Release 5.1. Configure VLAN (config-vlan-config) since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.
----------------------	--

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license. See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.
-------------------------	---

<b>Examples</b>	This example shows how to configure a query interval in which the software removes a group:
-----------------	---

```
switch(config)# vlan configuration 10  
switch(config-vlan-config)# ip igmp snooping last-member-query-interval 3  
switch(config-vlan-config)#
```

This example shows how to reset a query interval to the default:

```
switch(config)# vlan configuration 10  
switch(config-vlan-config)# no ip igmp snooping last-member-query-interval  
switch(config-vlan-config)#
```



**Related Commands**

Command	Description
show ip igmp snooping	Displays IGMP snooping information.

# ip igmp snooping link-local-groups-suppression

To enable suppression of IGMP reports from link-local groups, use the **ip igmp snooping link-local-groups-suppression** command. To disable suppression of these reports, use the **no** form of this command.

**ip igmp snooping link-local-groups-suppression**

**no ip igmp snooping link-local-groups-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** Global configuration (config)  
 VLAN configuration (config-vlan) until Cisco NX-OS Release 5.1.  
 Configure VLAN (config-vlan-config) since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.

**SupportedUserRoles** network-admin  
 vdc-admin

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

If this setting is disabled on the entire device, it is disabled on all VLANs on the device, irrespective of the specific VLAN setting.

See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.

**Examples** This example shows how to enable suppression of IGMP reports from link-local groups:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# ip igmp snooping link-local-groups-suppression
switch(config-vlan-config)#
```

This example shows how to disable suppression of IGMP reports from link-local groups:

```
switch(config)# vlan configuration 10  
switch(config-vlan-config)# no ip igmp snooping link-local-groups-suppression  
switch(config-vlan-config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp snooping</b>	Displays IGMP snooping information.

---

# ip igmp snooping max-gq-miss

To configure the maximum number of general query misses permitted for IGMP snooping, use the **ip igmp snooping max-gq-miss** command. To remove the default settings, use the **no** form of this command.

**ip igmp snooping max-gq-miss** *count*

**no ip igmp snooping max-gq-miss** *count*

<b>Syntax Description</b>	<i>count</i>	Specifies the IGMP snooping count. The range is from 3 to 5 queries. The default is 3 queries.
---------------------------	--------------	--

<b>Defaults</b>	3
-----------------	---

<b>Command Modes</b>	Global configuration mode.
----------------------	----------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	6.2(2)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	This example shows how to configure the maximum number of general query misses permitted for IGMP snooping:
-----------------	---

```
switch(config)# config t
switch(config)# ip igmp snooping max-gq-miss 5
switch(config)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping mrouter interface

To configure a static connection to a multicast router, use the **ip igmp snooping mrouter interface** command. To remove the static connection, use the **no** form of this command.

**ip igmp snooping mrouter interface** *if-type if-number*

**no ip igmp snooping mrouter interface** *if-type if-number*

Syntax Description		
	<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

**Defaults** None

**Command Modes** VLAN configuration (config-vlan) until Cisco NX-OS Release 5.1.  
 Configure VLAN (config-vlan-config) since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.

**Supported User Roles** network-admin  
 vdc-admin

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.  
 The interface to the router must be in the selected VLAN.  
 See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.

**Examples** This example shows how to configure a static connection to a multicast router:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# ip igmp snooping mrouter interface ethernet 2/1
switch(config-vlan-config)#
```

This example shows how to remove a static connection to a multicast router:

```
switch(config)# vlan configuration 10
```

## ■ ip igmp snooping mrouter interface

```
switch(config-vlan-config)# no ip igmp snooping mrouter interface ethernet 2/1  
switch(config-vlan-config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp snooping</b>	Displays IGMP snooping information.

---

# ip igmp snooping optimised-multicast-flood

To configure Optimized Multicast Flood (OMF) on the VLAN, use the **ip igmp snooping optimised-multicast flood** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping optimised-multicast-flood**

**no ip igmp snooping optimised-multicast-flood**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** VLAN configuration (config-vlan) until Cisco NX-OS Release 5.1.  
 Configure VLAN (config-vlan-config) since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.

**SupportedUserRoles** network-admin  
 vdc-admin

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.  
 The interface to the router must be in the selected VLAN.  
 See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.

**Examples** This example shows how to configure OMF on the VLAN:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# ip igmp snooping optimised-multicast-flood
switch(config-vlan-config)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping proxy

To configure IGMP snooping proxy, use the **ip igmp snooping proxy** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping proxy general-queries**

**no ip igmp snooping proxy general-queries**

## Syntax Description

**general-queries** Specifies proxy for general queries.

## Defaults

None

## Command Modes

Global Configuration mode

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.1(2)	This command was introduced.

## Usage Guidelines

This command does not require a license.

## Examples

This example shows how to configure proxy for general queries:

```
switch(config)# ip igmp snooping proxy general-queries
switch(config)#
```

## Related Commands

Command	Description
<b>show ip igmp snooping</b>	Displays IGMP snooping information.



# ip igmp snooping proxy (VLAN)

To configure IGMP snooping proxy, use the **ip igmp snooping proxy** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping proxy general-queries**

**no ip igmp snooping proxy general-queries**

<b>Syntax Description</b>	<b>general-queries</b> Specifies proxy for general queries.
---------------------------	---

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	VLAN configuration (config-vlan) until Cisco NX-OS Release 5.1. Configure VLAN (config-vlan-config) since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.
----------------------	--

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.1(2)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license. The interface to the router must be in the selected VLAN. See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.
-------------------------	--

<b>Examples</b>	This example shows how to configure proxy for general queries: <pre>switch(config)# ip igmp snooping proxy general-queries switch(config)#</pre>
-----------------	---

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping querier

To configure a snooping querier on an interface when you do not enable Protocol Independent Multicast (PIM) because the multicast traffic does not need to be routed, use the **ip igmp snooping querier** command. To remove the snooping querier, use the **no** form of this command.

**ip igmp snooping querier** *querier*

**no ip igmp snooping querier** [*querier*]

<b>Syntax Description</b>	<i>querier</i> Querier IP address.
---------------------------	------------------------------------

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	VLAN configuration (config-vlan) until Cisco NX-OS Release 5.1. Configure VLAN (config-vlan-config) since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.
----------------------	--

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license. See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.
-------------------------	---

<b>Examples</b>	<p>This example shows how to configure a snooping querier:</p> <pre>switch(config)# vlan configuration 10 switch(config-vlan-config)# ip igmp snooping querier 172.20.52.106 switch(config-vlan-config)#</pre> <p>This example shows how to disable the snooping querier on a VLAN interface:</p> <pre>switch(config)# vlan configuration 10 switch(config-vlan-config)# no ip igmp snooping querier switch(config-vlan-config)#</pre>
-----------------	--

**Related Commands**

Command	Description
show ip igmp snooping	Displays IGMP snooping information.

# ip igmp snooping query-interval

To configure the interval between query transmission, use the **ip igmp snooping query-interval** command. To remove the snooping querier, use the **no** form of this command.

**ip igmp snooping query-interval** *sec*

**no ip igmp snooping query-interval** *sec*

<b>Syntax Description</b>	<i>sec</i> Interval in seconds. The range is from 1 to 18000.				
<b>Defaults</b>	125 seconds				
<b>Command Modes</b>	VLAN configuration (config-vlan)				
<b>Supported User Roles</b>	network-admin vdc-admin				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>5.1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	5.1(1)	This command was introduced.
Release	Modification				
5.1(1)	This command was introduced.				
<b>Usage Guidelines</b>	This command does not require a license.				
<b>Examples</b>	<p>This example shows how to configure the interval between query transmission:</p> <pre>switch(config)# vlan configuration 10 switch(config-vlan-config)# ip igmp snooping query-interval 3 switch(config-vlan-config)# er than mrt, configure query-max-response-time first switch(config-vlan-config)#</pre>				
<b>Related Commands</b>	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><b>show ip igmp snooping</b></td> <td>Displays IGMP snooping information.</td> </tr> </tbody> </table>	Command	Description	<b>show ip igmp snooping</b>	Displays IGMP snooping information.
Command	Description				
<b>show ip igmp snooping</b>	Displays IGMP snooping information.				

# ip igmp snooping query-max-response-time

To configure the MRT for query messages, use the **ip igmp snooping query-max-response-time** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping query-max-response-time** *sec*

**no ip igmp snooping query-max-response-time** *sec*

<b>Syntax Description</b>	<i>sec</i> Time in seconds. The range is from 1 to 25.
---------------------------	--

<b>Defaults</b>	10 seconds
-----------------	------------

<b>Command Modes</b>	VLAN configuration (config-vlan)
----------------------	----------------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

Command History	Release	Modification
	5.1(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to configure the MRT for query messages:</p> <pre>switch(config)# <b>vlan configuration 10</b> switch(config-vlan-config)# <b>ip igmp snooping query-max-response-time 20</b> switch(config-vlan-config)#</pre>
-----------------	---

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping querier-timeout

To configure the querier timeout for IGMPv2, use the **ip igmp snooping querier-timeout** command. To remove the snooping querier, use the **no** form of this command.

**ip igmp snooping querier-timeout** *sec*

**no ip igmp snooping querier-timeout** *sec*

<b>Syntax Description</b>	<i>sec</i>	Time in seconds. The range is from 1 to 65535.
<b>Defaults</b>	255 seconds	
<b>Command Modes</b>	VLAN configuration (config-vlan)	
<b>Supported User Roles</b>	network-admin vdc-admin	
<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.1(1)	This command was introduced.
<b>Usage Guidelines</b>	This command does not require a license.	
<b>Examples</b>	This example shows how to configure the querier timeout for IGMPv2:  <pre>switch(config)# <b>vlan configuration 10</b> switch(config-vlan-config)# <b>ip igmp snooping querier-timeout 3</b> switch(config-vlan-config)#</pre>	
<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping report-suppression

To enable limiting the membership report traffic sent to multicast-capable routers, use the **ip igmp snooping report-suppression** command. To disable the limitation, use the **no** form of this command.

**ip igmp snooping report-suppression**

**no ip igmp snooping report-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** Global configuration (config)  
 VLAN configuration (config-vlan) until Cisco NX-OS Release 5.1.  
 Configure VLAN (config-vlan-config) since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.

**SupportedUserRoles** network-admin  
 vdc-admin

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.0(1)	This command was introduced.
	4.0(3)	Global configuration mode was added.

**Usage Guidelines** When you disable report suppression, all IGMP reports are sent as is to multicast-capable routers. See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command. This command does not require a license.

**Examples** This example shows how to enable limiting the membership report traffic:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# ip igmp snooping report-suppression
switch(config-vlan-config)#
```

This example shows how to disable limiting the membership report traffic:

```
switch(config)# vlan configuration 10
```

**ip igmp snooping report-suppression**

```
switch(config-vlan-config)# no ip igmp snooping report-suppression  
switch(config-vlan-config)#
```

**Related Commands**

Command	Description
<b>show ip igmp snooping</b>	Displays IGMP snooping information.



# ip igmp snooping robustness-variable

To configure the RFC defined robustness variable, use the **ip igmp snooping robustness-variable** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping robustness-variable** *value*

**no ip igmp snooping robustness-variable** *value*

<b>Syntax Description</b>	<i>value</i>	Count value. The range is from 1 to 7.
---------------------------	--------------	--

<b>Defaults</b>	2	
-----------------	---	--

<b>Command Modes</b>	VLAN configuration (config-vlan)	
----------------------	----------------------------------	--

<b>SupportedUserRoles</b>	network-admin vdc-admin	
---------------------------	----------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	5.1(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.	
-------------------------	--	--

<b>Examples</b>	<p>This example shows how to configure the configure the RFC defined robustness variable:</p> <pre>switch(config)# <b>vlan configuration 10</b> switch(config-vlan-config)# <b>ip igmp snooping robustness-variable 4</b> switch(config-vlan-config)#</pre>
-----------------	---

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping startup-query-count

To configure the number of queries sent at startup, use the **ip igmp snooping startup-query-count** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping startup-query-count** *value*

**no ip igmp snooping startup-query-count** *value*

<b>Syntax Description</b>	<i>value</i> Count value. The range is from 1 to 10.				
<b>Defaults</b>	None				
<b>Command Modes</b>	VLAN configuration (config-vlan)				
<b>Supported User Roles</b>	network-admin vdc-admin				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>NX-OS 5.1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	NX-OS 5.1(1)	This command was introduced.
Release	Modification				
NX-OS 5.1(1)	This command was introduced.				
<b>Usage Guidelines</b>	This command does not require a license.				
<b>Examples</b>	<p>This example shows how to configure the number of queries sent at startup:</p> <pre>switch(config)# <b>vlan configuration 10</b> switch(config-vlan-config)# <b>ip igmp snooping startup-query-count 4</b> switch(config-vlan-config)#</pre>				
<b>Related Commands</b>	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><b>show ip igmp snooping</b></td> <td>Displays IGMP snooping information.</td> </tr> </tbody> </table>	Command	Description	<b>show ip igmp snooping</b>	Displays IGMP snooping information.
Command	Description				
<b>show ip igmp snooping</b>	Displays IGMP snooping information.				

# ip igmp snooping startup-query-interval

To configure the query interval at startup, use the **ip igmp snooping startup-query-interval** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping startup-query-interval** *sec*

**no ip igmp snooping startup-query-interval** *sec*

<b>Syntax Description</b>	<i>sec</i> Interval in seconds. The range is from 1 to 18000.
---------------------------	---

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	VLAN configuration (config-vlan)
----------------------	----------------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	NX-OS 5.1(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to configure the query interval at startup:</p> <pre>switch(config)# <b>vlan configuration 10</b> switch(config-vlan-config)# <b>ip igmp snooping startup-query-interval 4</b> switch(config-vlan-config)#</pre>
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping static-group

To configure a Layer 2 port of a VLAN as a static member of a multicast group, use the **ip igmp snooping static-group** command. To remove the static member, use the **no** form of this command.

**ip igmp snooping static-group** *group* [**source** *source*] **interface** *if-type if-number*

**no ip igmp snooping static-group** *group* [**source** *source*] **interface** *if-type if-number*

## Syntax Description

<i>group</i>	Group IP address.
<b>source</b> <i>source</i>	(Optional) Configures a static (S, G) channel for the source IP address.
<b>interface</b>	Specifies an interface for the static group.
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

## Defaults

None

## Command Modes

VLAN configuration (config-vlan) until Cisco NX-OS Release 5.1.

Configure VLAN (config-vlan-config) since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
4.0(1)	This command was introduced.

## Usage Guidelines

This command does not require a license.

See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.

## Examples

This example shows how to configure a static member of a multicast group:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# ip igmp snooping static-group 230.0.0.1 interface ethernet 2/1
switch(config-vlan-config)#
```

This example shows how to remove a static member of a multicast group:

```
switch(config)# vlan configuration 10  
switch(config-vlan-config)# no ip igmp snooping static-group 230.0.0.1 interface ethernet 2/1  
switch(config-vlan-config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp snooping</b>	Displays IGMP snooping information.

---

# ip igmp snooping version

To configure the IGMP version number for VLAN, use the **ip igmp snooping version** command. To return to the default settings, use the **no** form of this command.

**ip igmp snooping version** *value*

**no ip igmp snooping version** *value*

Syntax Description	<i>value</i>	Version number value. The range is from 2 to 3.
--------------------	--------------	---

Defaults	None
----------	------

Command Modes	VLAN configuration (config-vlan)
---------------	----------------------------------

SupportedUserRoles	network-admin vdc-admin
--------------------	----------------------------

Command History	Release	Modification
	5.1(1)	This command was introduced.

Usage Guidelines	This command does not require a license.
------------------	--

Examples	This example shows how to configure IGMP version number for VLAN:
----------	---

```
switch(config-vlan-config)# ip igmp snooping version 3
switch(config-vlan-config)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp snooping v3-report-suppression (Global)

To configure IGMPv3 report suppression and proxy reporting for VLANs on the entire device, use the **ip igmp snooping v3-report-suppression** command. To remove IGMPv3 report suppression, use the **no** form of this command.

**ip igmp snooping v3-report-suppression**

**no ip igmp snooping v3-report-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(3)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to configure IGMPv3 report suppression and proxy reporting for VLANs:

```
switch(config)# ip igmp snooping v3-report-suppression
```

This example shows how to remove IGMPv3 report suppression:

```
switch(config)# no ip igmp snooping v3-report-suppression
```

Related Commands	Command	Description
	<b>show ip igmp snooping</b>	Displays IGMP snooping information.

## ip igmp snooping v3-report-suppression (VLAN)

To configure IGMPv3 report suppression and proxy reporting for VLANs, use the **ip igmp snooping v3-report-suppression** command. To remove IGMPv3 report suppression, use the **no** form of this command.

**ip igmp snooping v3-report-suppression**

**no ip igmp snooping v3-report-suppression**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Enabled

**Command Modes** VLAN configuration (config-vlan) until Cisco NX-OS Release 5.1.  
Configure VLAN (config-vlan-config) since Cisco NS-OS Release 5.1(1). You cannot configure this command in the VLAN configuration mode in Cisco Release NX-OS 5.1 and higher.

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	NX-OS 5.1(1)	The mode to configure this command on a VLAN changed to the configure VLAN mode (config-vlan-config)#. You can no longer configure this command in the VLAN configuration mode (config-vlan)#.
	4.0(3)	This command was introduced.

**Usage Guidelines** If this setting is disabled for the device, which is the default value, it is disabled for all VLANs, irrespective of how you set this value for an individual VLAN. However, once you set the global setting to enabled, the settings for all the VLANs are enabled by default.

See the Layer2 Command Reference Guide for information on entering the Configure VLAN mode by using the vlan configuration command.

This command does not require a license.

**Examples** This example shows how to configure IGMPv3 report suppression and proxy reporting for specified VLANs:

```
switch(config)# vlan configuration 10
switch(config-vlan-config)# ip igmp snooping v3-report-suppression
```

This example shows how to remove IGMPv3 report suppression on specified VLANs:



```
switch(config)# vlan configuration 10  
switch(config-vlan-config)# no ip igmp snooping v3-report-suppression
```

---

**Related Commands**

Command	Description
<b>show ip igmp snooping</b>	Displays IGMP snooping information.

# ip igmp ssm-translate

To translate IGMPv1 or IGMPv2 membership reports to create the (S, G) state so that the router treats them as IGMPv3 membership reports, use the **ip igmp ssm-translate** command. To remove the translation, use the **no** form of this command.

**ip igmp ssm-translate** *group source*

**no ip igmp ssm-translate** *group source*

## Syntax Description

<i>group</i>	IPv4 multicast group range. By default, the group prefix range is 232.0.0.0/8. To modify the IPv4 Protocol Independent Multicast (PIM) SSM range, see the <b>ip pim ssm range</b> command.
<i>source</i>	IP multicast address source.

## Defaults

None

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

To display SSM translation commands, use this command line:

```
switch(config)# show running-config | include ssm-translation
```

This command does not require a license.

## Examples

This example shows how to configure a translation:

```
switch(config)# ip igmp ssm-translate 232.0.0.0/8 10.1.1.1
```

This example shows how to remove a translation:

```
switch(config)# no ip igmp ssm-translate 232.0.0.0/8 10.1.1.1
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show running-config</b>	Displays information about the running-system configuration.

# ip igmp startup-query-count

To configure the query count used when the IGMP process starts up, use the **ip igmp startup-query-count** command. To reset the query count to the default, use the **no** form of this command.

**ip igmp startup-query-count** *count*

**no ip igmp startup-query-count** [*count*]

Syntax Description	<i>count</i>	Query count. The range is from 1 to 10. The default is 2.
--------------------	--------------	---

Defaults	The query count is 2.
----------	-----------------------

Command Modes	Interface configuration (config-if)
---------------	-------------------------------------

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines	This command does not require a license.
------------------	--

Examples	This example shows how to configure a query count:
----------	--

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp startup-query-count 3
switch(config-if)#
```

This example shows how to reset a query count to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp startup-query-count
switch(config-if)#
```

Related Commands	Command	Description
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip igmp startup-query-interval

To configure the query interval used when the IGMP process starts up, use the **ip igmp startup-query-interval** command. To reset the query interval to the default, use the **no** form of this command.

**ip igmp startup-query-interval** *interval*

**no ip igmp startup-query-interval** [*interval*]

<b>Syntax Description</b>	<i>interval</i> Query interval in seconds. The range is from 1 to 18,000. The default is 31.
---------------------------	--

<b>Defaults</b>	The query interval is 31 seconds.
-----------------	-----------------------------------

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to configure a startup query interval:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# ip igmp startup-query-interval 25 switch(config-if)#</pre> <p>This example shows how to reset a startup query interval to the default:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no ip igmp startup-query-interval switch(config-if)#</pre>
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip igmp state-limit

To configure the maximum states allowed, use the **ip igmp state-limit** command. To remove the state limit, use the **no** form of this command.

**ip igmp state-limit** *max-states* [**reserved** *reserve-policy max-reserved*]

**no ip igmp state-limit** [*max-states* [**reserved** *reserve-policy max-reserved*]]

## Syntax Description

<i>max-states</i>	Maximum states allowed. The range is from 1 to 4,294,967,295.
<b>reserved</b>	(Optional) Specifies to use the route-map policy name for the reserve policy and set the maximum number of (*, G) and (S, G) entries allowed on the interface.
<i>reserve-policy</i>	
<i>max-reserved</i>	

## Defaults

None

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command does not require a license.

## Examples

This example shows how to configure a state limit:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp state-limit 5000
switch(config-if)#
```

This example shows how to remove a state limit:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip igmp state-limit
switch(config-if)#
```

## Related Commands

Command	Description
<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip igmp static-oif

To statically bind a multicast group to the outgoing interface (OIF), which is handled by the device hardware, use the **ip igmp static-oif** command. To remove a static group, use the **no** form of this command.

**ip igmp static-oif** {*group* [**source** *source*] | **route-map** *policy-name*}

**no ip igmp static-oif** {*group* [**source** *source*] | **route-map** *policy-name*}

Syntax Description		
<i>group</i>	Multicast group IPv4 address. If you specify only the group address, the (*, G) state is created.	
<b>source</b> <i>source</i>	(Optional) Configures the source IP address for IGMPv3 and creates the (S, G) state.	<b>Note</b> A source tree is built for the (S, G) state only if you enable IGMPv3.
<b>route-map</b> <i>policy-name</i>	Specifies the route-map policy name that defines the group prefixes where this feature is applied.	

**Defaults** None

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.2(1)	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .

**Usage Guidelines** The **match ip multicast** command is the only **match** command that is evaluated in the route map. You can specify the group prefix, group range, and source prefix to filter messages with the **match ip multicast** command.

This command does not require a license.

**Examples** This example shows how to statically bind a group to the OIF:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip igmp static-oif 230.0.0.0
switch(config-if)#
```

This example shows how to remove a static binding from the OIF:

```
switch(config)# interface ethernet 2/2
```

## ■ ip igmp static-oif

```
switch(config-if)# no ip igmp static oif 230.0.0.0  
switch(config-if)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp local-groups</b>	Displays information about the IGMP local group membership.

---



# ip igmp version

To configure the IGMP version to use on an interface, use the **ip igmp version** command. To reset the IGMP version to the default, use the **no** form of this command.

**ip igmp version** *version*

**no ip igmp version** [*version*]

<b>Syntax Description</b>	<i>version</i> Version number. The number is 2 or 3. The default is 2.
---------------------------	--

<b>Defaults</b>	The version number is 2.
-----------------	--------------------------

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to configure the IGMP version to use on an interface:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# ip igmp version 3 switch(config-if)#</pre> <p>This example shows how to reset the IGMP version to the default:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no ip igmp version switch(config-if)#</pre>
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ip mroute

To configure multicast reverse path forwarding (RPF) static routes, use the **ip mroute** command. To remove RPF static routes, use the **no** form of this command.

**ip mroute** {*ip-addr ip-mask* | *ip-prefix*} {{*next-hop* | *nh-prefix*} | *if-type if-number*} [*pref*] [**vrf** *vrf-name*]

**no ip mroute** {*ip-addr ip-mask* | *ip-prefix*} {{*next-hop* | *nh-prefix*} | *if-type if-number*} [*pref*] [**vrf** *vrf-name*]

## Syntax Description

<i>ip-addr</i>	IP prefix in the format i.i.i.i.
<i>ip-mask</i>	IP network mask in the format m.m.m.m.
<i>ip-prefix</i>	IP prefix and network mask length in the format x.x.x.x/m.
<i>next-hop</i>	IP next-hop address in the format i.i.i.i.
<i>nh-prefix</i>	IP next-hop prefix in the format i.i.i.i/m.
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<i>pref</i>	(Optional) Route preference. The range is from 1 to 255. The default is 1.
<b>vrf</b> <i>vrf-name</i>	(Optional) Applies to the specified virtual routing and forwarding (VRF) instance.

## Defaults

The route preference is 1.

## Command Modes

Global configuration (config)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command does not require a license.

## Examples

This example shows how to configure an RPF static route:

```
switch(config)# ip mroute 192.168.1.0/24 192.168.2.0/24
switch(config)#
```

This example shows how to remove an RPF static route:

```
switch(config)# no ip mroute 192.168.1.0/24 192.168.2.0/24  
switch(config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip mroute</b>	Displays information about multicast routes.

---

# ip msdp description

To configure a description for the Multicast Source Discovery Protocol (MSDP) peer, use the **ip msdp description** command. To remove the description for the peer, use the **no** form of this command.

**ip msdp description** *peer-address text*

**no ip msdp description** *peer-address [text]*

## Syntax Description

<i>peer-address</i>	IP address of MSDP peer.
<i>text</i>	Text description.

## Defaults

None

## Command Modes

Global configuration (config)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to configure an MSDP peer description:

```
switch(config)# ip msdp description 192.168.1.10 engineering peer
```

This example shows how to remove an MSDP peer description:

```
switch(config)# no ip msdp description 192.168.1.10
```

## Related Commands

Command	Description
<b>show ip msdp peer</b>	Displays information about MSDP peers.

# ip msdp event-history

To configure the size of the Multicast Source Discovery Protocol (MSDP) event history buffers, use the **ip msdp event-history** command. To revert to the default buffer size, use the **no** form of this command.

**ip msdp event-history** { **cli** | **events** | **msdp-internal** | **routes** | **tcp** } **size** *buffer-size*

**no ip msdp event-history** { **cli** | **events** | **msdp-internal** | **routes** | **tcp** } **size** *buffer-size*

Syntax Description		
<b>cli</b>		Configures the CLI event history buffer.
<b>events</b>		Configures the peer-events event history buffer.
<b>msdp-internal</b>		Configures the MSDP internal event history buffer.
<b>routes</b>		Configures the routes event history buffer.
<b>tcp</b>		Configures the TCP event history buffer.
<b>size</b>		Specifies the size of the buffer to allocate.
<i>buffer-size</i>		Buffer size that is one of the following values: <b>disabled</b> , <b>large</b> , <b>medium</b> , or <b>small</b> . The default buffer size is <b>small</b> .

**Defaults** All history buffers are allocated as small.

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.
	4.1(3)	Changed the buffer type arguments to required.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to configure the size of the MSDP event history buffer:

```
switch(config)# ip msdp event-history events size medium
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip routing multicast event-history</b>	Clears information in the IPv4 MRIB event history buffers.
<b>show routing ip multicast event-history</b>	Displays information in the IPv4 MRIB event history buffers.
<b>show running-config msdp</b>	Displays information about the running-system MSDP configuration.

# ip msdp flush-routes

To flush routes when the Multicast Source Discovery Protocol (MSDP) process is restarted, use the **ip msdp flush-routes** command. To leave routes in place, use the **no** form of this command.

**ip msdp flush-routes**

**no ip msdp flush-routes**

**Syntax Description** This command has no arguments or keywords.

**Defaults** The routes are not flushed.

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** To display whether flush routes are configured, use this command line:

```
switch(config)# show running-config | include flush-routes
```

This command requires the Enterprise Services license.

**Examples** This example shows how to configure flushing routes when the MSDP process is restarted:

```
switch(config)# ip msdp flush-routes
```

This example shows how to leave routes in place when the MSDP process is restarted:

```
switch(config)# no ip msdp flush-routes
```

Related Commands	Command	Description
	<b>show running-config</b>	Displays information about the running-system configuration.

# ip msdp group-limit

To configure the Multicast Source Discovery Protocol (MSDP) maximum number of (S, G) entries that the software creates for the specified prefix, use the **ip msdp group-limit** command. To remove the group limit, use the **no** form of this command.

**ip msdp group-limit** *limit source prefix*

**no ip msdp group-limit** *limit source prefix*

## Syntax Description

<i>limit</i>	Limit on number of groups. The range is from 0 to 4294967295. The default is no limit.
<b>source prefix</b>	Specifies the prefix to match sources against.

## Defaults

None

## Command Modes

Global configuration (config)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to configure the maximum number of (S, G) entries to create for a source:

```
switch(config)# ip msdp group-limit 4000 source 192.168.1.0/24
```

This example shows how to remove the limit entries to create:

```
switch(config)# no ip msdp group-limit 4000 source 192.168.1.0/24
```

## Related Commands

Command	Description
<b>show ip msdp sources</b>	Displays information about the MSDP learned sources and group limit.



# ip msdp keepalive

To configure a Multicast Source Discovery Protocol (MSDP) peer keepalive interval and timeout, use the **ip msdp keepalive** command. To reset the timeout and interval to the default, use the **no** form of this command.

**ip msdp keepalive** *peer-address interval timeout*

**no ip msdp keepalive** *peer-address [interval timeout]*

Syntax Description	
<i>peer-address</i>	IP address of an MSDP peer.
<i>interval</i>	Keepalive interval in seconds. The range is from 1 to 60. The default is 60.
<i>timeout</i>	Keepalive timeout in seconds. The range is from 1 to 90. The default is 90.

**Defaults**  
 The keepalive interval is 60 seconds.  
 The keepalive timeout is 90 seconds.

**Command Modes**  
 Global configuration (config)

**Supported User Roles**  
 network-admin  
 vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines**  
 This command requires the Enterprise Services license.

**Examples**  
 This example shows how to configure an MSDP peer keepalive interval and timeout:  

```
switch(config)# ip msdp keepalive 192.168.1.10 60 80
```

  
 This example shows how to reset a keepalive interval and timeout to the default:  

```
switch(config)# no ip msdp keepalive 192.168.1.10
```

Related Commands	Command	Description
	<b>show ip msdp peer</b>	Displays information about MSDP peers.

# ip msdp mesh-group

To configure a Multicast Source Discovery Protocol (MSDP) mesh group with a peer, use the **ip msdp mesh-group** command. To remove the peer from one or all mesh groups, use the **no** form of this command.

**ip msdp mesh-group** *peer-address name*

**no ip msdp mesh-group** *peer-address [name]*

## Syntax Description

<i>peer-address</i>	IP address of an MSDP peer in a mesh group.
<i>name</i>	Name of the mesh group.

## Defaults

None

## Command Modes

Global configuration (config)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a mesh group with a peer:

```
switch(config)# ip msdp mesh-group 192.168.1.10 my_admin_mesh
```

This example shows how to remove a peer from a mesh group:

```
switch(config)# no ip msdp mesh-group 192.168.1.10 my_admin_mesh
```

## Related Commands

Command	Description
<b>show ip msdp mesh-group</b>	Displays information about MSDP mesh groups.

# ip msdp originator-id

To configure the IP address used in the RP field of a Source-Active message entry, use the **ip msdp originator-id** command. To reset the value to the default, use the **no** form of this command.

**ip msdp originator-id** *if-type if-number*

**no ip msdp originator-id** [*if-type if-number*]

Syntax Description		
	<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

**Defaults** The MSDP process uses the RP address of the local system.

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** We recommend that you use a loopback interface for the RP address. This command requires the Enterprise Services license.

**Examples** This example shows how to configure the IP address used in the RP field of SA messages:

```
switch(config)# ip msdp originator-id loopback0
```

This example shows how to reset the RP address to the default:

```
switch(config)# no ip msdp originator-id loopback0
```

Related Commands	Command	Description
	<b>show ip msdp summary</b>	Displays a summary of MDSP information.

# ip msdp password

To enable a Multicast Source Discovery Protocol (MSDP) MD5 password for the peer, use the **ip msdp password** command. To disable an MD5 password for a peer, use the **no** form of this command.

**ip msdp password** *peer-address password*

**no ip msdp password** *peer-address [password]*

## Syntax Description

<i>peer-address</i>	IP address of an MSDP peer.
<i>password</i>	MD5 password.

## Defaults

None

## Command Modes

Global configuration (config)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to enable an MD5 password for a peer:

```
switch(config)# ip msdp password 192.168.1.10 my_password
```

This example shows how to disable an MD5 password for a peer:

```
switch(config)# no ip msdp password 192.168.1.10
```

## Related Commands

Command	Description
<b>show ip msdp peer</b>	Displays MDSP peer information.

# ip msdp peer

To configure a Multicast Source Discovery Protocol (MSDP) peer with the specified peer IP address, use the **ip msdp peer** command. To remove an MSDP peer, use the **no** form of this command.

**ip msdp peer** *peer-address* **connect-source** *if-type if-number* [**remote-as** *asn*]

**no ip msdp peer** *peer-address* [**connect-source** *if-type if-number*] [**remote-as** *asn*]

## Syntax Description

<i>peer-address</i>	IP address of the MSDP peer.
<b>connect-source</b>	Configures a local IP address for a TCP connection.
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>remote-as</b> <i>asn</i>	(Optional) Configures a remote autonomous system (AS) number.

## Defaults

None

## Command Modes

Global configuration (config)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.
4.0(3)	The remote AS number was made an optional argument.

## Usage Guidelines

The software uses the source IP address of the interface for the TCP connection with the peer. If the AS number is the same as the local AS, then the peer is within the Protocol Independent Multicast (PIM) domain; otherwise, this peer is external to the PIM domain.

This command requires the Enterprise Services license.

## Examples

This example shows how to configure an MSDP peer:

```
switch(config)# ip msdp peer 192.168.1.10 connect-source ethernet 1/0 remote-as 8
```

This example shows how to remove an MSDP peer:

```
switch(config)# no ip msdp peer 192.168.1.10
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip msdp summary</b>	Displays a summary of MSDP information.

# ip msdp reconnect-interval

To configure a reconnect interval for the TCP connection, use the **ip msdp reconnect-interval** command. To reset a reconnect interval to the default, use the **no** form of this command.

**ip msdp reconnect-interval** *interval*

**no ip msdp reconnect-interval** [*interval*]

<b>Syntax Description</b>	<i>interval</i> Reconnect interval in seconds. The range is from 1 to 60. The default is 10.
---------------------------	--

<b>Defaults</b>	The reconnect interval is 10 seconds.
-----------------	---------------------------------------

<b>Command Modes</b>	Global configuration (config)
----------------------	-------------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to configure a reconnect interval for the TCP connection:</p> <pre>switch(config)# ip msdp reconnect-interval 20</pre> <p>This example shows how to reset a reconnect interval to the default:</p> <pre>switch(config)# no ip msdp reconnect-interval</pre>
-----------------	---

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip msdp peer</b>	Displays information about MSDP peers.

# ip msdp sa-interval

To configure the interval at which the software transmits Source-Active (SA) messages, use the **ip msdp sa-interval** command. To reset the interval to the default, use the **no** form of this command.

**ip msdp sa-interval** *interval*

**no ip msdp sa-interval** [*interval*]

<b>Syntax Description</b>	<i>interval</i>	SA transmission interval in seconds. The range is from 60 to 65,535. The default is 60.
---------------------------	-----------------	---

**Defaults** The SA message interval is 60 seconds.

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin  
vdc-admin

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

**Usage Guidelines** To display the SA interval configuration command, use this command line:  
switch(config)# **show running-config | include sa-interval**

This command requires the Enterprise Services license.

**Examples** This example shows how to configure an SA transmission interval:

```
switch(config)# ip msdp sa-interval 100
```

This example shows how to reset the interval to the default:

```
switch(config)# no ip msdp sa-interval
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show running-config</b>	Displays information about the running-system configuration.



# ip msdp sa-limit

To configure a limit on the number of (S, G) entries accepted from the peer, use the **ip msdp sa-limit** command. To remove the limit, use the **no** form of this command.

**ip msdp sa-limit** *peer-address* *limit*

**no ip msdp sa-limit** *peer-address* [*limit*]

Syntax Description	
<i>peer-address</i>	IP address of an MSDP peer.
<i>limit</i>	Number of (S, G) entries. The range is from 0 to 4294967295. The default is none.

**Defaults** None

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to configure a Source-Active (SA) limit for a peer:

```
switch(config)# ip msdp sa-limit 192.168.1.10 5000
```

This example shows how to reset the limit to the default:

```
switch(config)# no ip msdp sa-limit 192.168.1.10
```

Related Commands	Command	Description
	<b>show ip msdp peer</b>	Displays information about MSDP peers.

# ip msdp sa-policy in

To enable filtering of incoming Multicast Source Discovery Protocol (MSDP) Source-Active (SA) messages, use the **ip msdp sa-policy in** command. To disable filtering, use the **no** form of this command.

**ip msdp sa-policy** *peer-address* *policy-name* **in**

**no ip msdp sa-policy** *peer-address* *policy-name* **in**

## Syntax Description

<i>peer-address</i>	IP address of an MSDP peer.
<i>policy-name</i>	Route-map policy name.

## Defaults

Disabled

## Command Modes

Global configuration (config)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to enable filtering of incoming SA messages:

```
switch(config)# ip msdp sa-policy 192.168.1.10 my_incoming_sa_policy in
```

This example shows how to disable filtering:

```
switch(config)# no ip msdp sa-policy 192.168.1.10 my_incoming_sa_policy in
```

## Related Commands

Command	Description
<b>show ip msdp peer</b>	Displays information about MSDP peers.

# ip msdp sa-policy out

To enable filtering of outgoing Source-Active (SA) messages, use the **ip msdp sa-policy out** command. To disable filtering, use the **no** form of this command.

**ip msdp sa-policy peer-address policy-name out**

**no ip msdp sa-policy peer-address policy-name out**

Syntax Description	
<i>peer-address</i>	IP address of an MSDP peer.
<i>policy-name</i>	Route-map policy name.

**Defaults** Disabled

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to enable filtering of SA messages:

```
switch(config)# ip msdp sa-policy 192.168.1.10 my_incoming_sa_policy out
```

This example shows how to disable filtering:

```
switch(config)# no ip msdp sa-policy 192.168.1.10 my_incoming_sa_policy out
```

Related Commands	Command	Description
	<b>show ip msdp peer</b>	Displays information about MSDP peers.

# ip msdp shutdown

To shut down a Multicast Source Discovery Protocol (MSDP) peer, use the **ip msdp shutdown** command. To enable the peer, use the **no** form of this command.

**ip msdp shutdown** *peer-address*

**no ip msdp shutdown** *peer-address*

<b>Syntax Description</b>	<i>peer-address</i> IP address of an MSDP peer.
---------------------------	---

<b>Defaults</b>	Enabled
-----------------	---------

<b>Command Modes</b>	Global configuration (config)
----------------------	-------------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

Command History	Release	Modification
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to disable an MSDP peer:</p> <pre>switch(config)# ip msdp shutdown 192.168.1.10</pre> <p>This example shows how to enable an MSDP peer:</p> <pre>switch(config)# no ip msdp shutdown 192.168.1.10</pre>
-----------------	---

Related Commands	Command	Description
	<b>show ip msdp peer</b>	Displays information about MSDP peers.

# ip pim anycast-rp

To configure an IPv4 Protocol Independent Multicast (PIM) Anycast-RP peer for the specified Anycast-RP address, use the **ip pim anycast-rp** command. To remove the peer, use the **no** form of this command.

**ip pim anycast-rp** *anycast-rp rp-addr*

**no ip pim anycast-rp** *anycast-rp rp-addr*

## Syntax Description

<i>anycast-rp</i>	Anycast-RP address of the peer.
<i>rp-addr</i>	Address of RP in the Anycast-RP set.

## Defaults

None

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

Each command with the same Anycast-RP address forms an Anycast-RP set. The IP addresses of RPs are used for communication with RPs in the set.

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a PIM Anycast-RP peer:

```
switch(config)# ip pim anycast-rp 192.0.2.3 192.0.2.31
```

This example shows how to remove a peer:

```
switch(config)# no ip pim anycast-rp 192.0.2.3 192.0.2.31
```

## Related Commands

Command	Description
<b>show ip pim rp</b>	Displays information about PIM RPs.

## ip pim auto-rp listen

To enable Protocol Independent Multicast (PIM) listening and forwarding of Auto-RP messages, use the **ip pim auto-rp listen** and **ip pim auto-rp forward** commands. To disable the listening and forwarding of Auto-RP messages, use the **no** form of this command.

```
ip pim auto-rp {listen [forward] | forward [listen]}
```

```
no ip pim auto-rp [{listen [forward] | forward [listen]}]
```

### Syntax Description

<b>listen</b>	Specifies to listen to Auto-RP messages.
<b>forward</b>	Specifies to forward Auto-RP messages.

### Defaults

Disabled

### Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0(1)	This command was introduced.

### Usage Guidelines

This command requires the Enterprise Services license.

### Examples

This example shows how to enable listening and forwarding of Auto-RP messages:

```
switch(config)# ip pim auto-rp listen forward
```

This example shows how to disable listening and forwarding of Auto-RP messages:

```
switch(config)# no ip pim auto-rp listen forward
```

### Related Commands

Command	Description
<b>show ip pim rp</b>	Displays information about PIM RPs.

# ip pim auto-rp mapping-agent

To configure the router as an IPv4 Protocol Independent Multicast (PIM) Auto-RP mapping agent that sends RP-Discovery messages, use the **ip pim auto-rp mapping-agent** command. To remove the mapping agent configuration, use the **no** form of this command.

**ip pim auto-rp mapping-agent** *if-type if-number* [**scope ttl**]

**no ip pim auto-rp mapping-agent** [*if-type if-number*] [**scope ttl**]

Syntax Description	
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>scope ttl</b>	(Optional) Specifies the time-to-live (TTL) value for the scope of Auto-RP Discovery messages. The range is from 1 to 255. The default is 32.
<b>Note</b>	See the <b>ip pim border</b> command to explicitly define a router on the edge of a PIM domain rather than using the <b>scope</b> argument.

**Defaults** The TTL is 32.

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** The **ip pim send-rp-discovery** command is an alternative form of this command. This command requires the Enterprise Services license.

**Examples** This example shows how to configure an Auto-RP mapping agent:

```
switch(config)# ip pim auto-rp mapping-agent ethernet 2/1
```

This example shows how to remove the Auto-RP mapping agent configuration:

```
switch(config)# no ip pim auto-rp mapping-agent ethernet 2/1
```

Related Commands	Command	Description
	<b>ip pim border</b>	Configures a router to be on the edge of a PIM domain.
	<b>ip pim send-rp-discovery</b>	Configures a router as an Auto-RP mapping agent.
	<b>show ip pim rp</b>	Displays information about PIM RPs.



# ip pim auto-rp mapping-agent-policy

To enable filtering of IPv4 IPv4 Protocol Independent Multicast (PIM) Auto-RP Discover messages, use the **ip pim auto-rp mapping-agent-policy** command. To disable filtering, use the **no** form of this command.

**ip pim auto-rp mapping-agent-policy** *policy-name*

**no ip pim auto-rp mapping-agent-policy** [*policy-name*]

<b>Syntax Description</b>	<i>policy-name</i> Route-map policy name.
---------------------------	---

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Global configuration (config) VRF configuration (config-vrf)
----------------------	---

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

**Usage Guidelines**

This command can be used on client routers where you can specify mapping agent addresses. You can specify mapping agent source addresses to filter messages from with the **match ip multicast** command in a route-map policy.

This command requires the Enterprise Services license.

**Examples**

This example shows how to enable a route-map policy to filter Auto-RP Discover messages:

```
switch(config)# ip pim auto-rp mapping-agent-policy my_mapping_agent_policy
```

This example shows how to disable filtering:

```
switch(config)# no ip pim auto-rp mapping-agent-policy
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip pim rp</b>	Displays information about PIM RPs.

## ip pim auto-rp rp-candidate

To configure an IPv4 Protocol Independent Multicast (PIM) Auto-RP candidate route processor (RP), use the **ip pim auto-rp rp-candidate** command. To remove an Auto-RP candidate RP, use the **no** form of this command.

```
ip pim auto-rp rp-candidate if-type if-number {group-list prefix} {[scope ttl] | [interval interval] | [bidir]}
```

```
no ip pim auto-rp rp-candidate [if-type if-number] [group-list prefix] {[scope ttl] | [interval interval] | [bidir]}
```

### Syntax Description

<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>group-list prefix</b>	Specifies the group range used for the access list.
<b>scope ttl</b>	(Optional) Specifies a time-to-live (TTL) value for the scope of Auto-RP Announce messages. The range is from 1 to 255. The default is 32.  <b>Note</b> See the <b>ip pim border</b> command to explicitly define a router on the edge of a PIM domain rather than using the <b>scope</b> argument.
<b>interval interval</b>	(Optional) Specifies an Auto-RP Announce message transmission interval in seconds. The range is from 1 to 65,535. The default is 60.
<b>bidir</b>	(Optional) Specifies that the group range is advertised in PIM bidirectional (Bidir) mode.

### Defaults

The TTL is 32.  
The Announce message interval is 60 seconds.

### Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0(1)	This command was introduced.

### Usage Guidelines

The **scope**, **interval**, and **bidir** keywords can be entered once and in any order.  
The **ip pim send-rp-announce** command is an alternative form of this command.

Using a route map, you can add group ranges that this auto RP candidate-RP can serve.

**Note**

Use the same configuration guidelines for the route-map auto-rp-range that you used when you create a route map for static RPS.

This command requires the Enterprise Services license.

**Examples**

This example shows how to configure a PIM Auto-RP candidate RP:

```
switch(config)# ip pim auto-rp rp-candidate ethernet 2/1 group-list 239.0.0.0/24
```

This example shows how to remove a PIM Auto-RP candidate RP:

```
switch(config)# no ip pim auto-rp rp-candidate ethernet 2/1 group-list 239.0.0.0/24
```

**Related Commands**

Command	Description
<b>ip pim send-rp-announce</b>	Configures a PIM Auto-RP candidate RP.
<b>show ip pim interface</b>	Displays information about PIM-enabled interfaces.

# ip pim auto-rp rp-candidate-policy

To allow the Auto-RP mapping agents to filter IPv4 Protocol Independent Multicast (PIM) Auto-RP Announce messages that are based on a route-map policy, use the **ip pim auto-rp rp-candidate-policy** command. To disable filtering, use the **no** form of this command.

**ip pim auto-rp rp-candidate-policy** *policy-name*

**no ip pim auto-rp rp-candidate-policy** [*policy-name*]

<b>Syntax Description</b>	<i>policy-name</i> Route-map policy name.				
<b>Defaults</b>	Disabled				
<b>Command Modes</b>	Global configuration (config) VRF configuration (config-vrf)				
<b>Supported User Roles</b>	network-admin vdc-admin				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>4.0(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	4.0(1)	This command was introduced.
Release	Modification				
4.0(1)	This command was introduced.				
<b>Usage Guidelines</b>	<p>You can specify the RP and group addresses, and whether the type is Bidir or ASM with the <b>match ip multicast</b> command in a route-map policy.</p> <p>This command requires the Enterprise Services license.</p>				
<b>Examples</b>	<p>This example shows how to allow the Auto-RP mapping agents to filter Auto-RP Announce messages:</p> <pre>switch(config)# ip pim auto-rp rp-candidate-policy my_policy</pre> <p>This example shows how to disable filtering:</p> <pre>switch(config)# no ip pim auto-rp rp-candidate-policy</pre>				
<b>Related Commands</b>	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td><b>show ip pim rp</b></td> <td>Displays information about PIM RPs.</td> </tr> </tbody> </table>	Command	Description	<b>show ip pim rp</b>	Displays information about PIM RPs.
Command	Description				
<b>show ip pim rp</b>	Displays information about PIM RPs.				

# ip pim bidir-rp-limit

To configure the number of bidirectional (Bidir) RPs for use in IPv4 Protocol Independent Multicast (PIM), use the **ip pim bidir-rp-limit** command. To reset the number of RPs to the default, use the **no** form of this command.

**ip pim bidir-rp-limit** *limit*

**no ip pim bidir-rp-limit** *limit*

<b>Syntax Description</b>	<i>limit</i>	Limit for the number of Bidir RPs permitted in PIM. The range is from 0 to 8. The default is 6.
---------------------------	--------------	---

**Defaults** The Bidir RP limit is 6.

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**SupportedUserRoles** network-admin  
vdc-admin

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(2)	This command was introduced.

**Usage Guidelines** Because the maximum ordinal count of designated forwarders (DFs) is 8, the PIM and IPv6 PIM RP limits should be no more than 8.

To display the Bidir RP limit configured, use this command line:

```
switch(config)# show running-config | include bidir
```

This command requires the Enterprise Services license.

**Examples** This example shows how to configure the number of Bidir RPs:

```
switch(config)# ip pim bidir-rp-limit 6
```

This example shows how to reset the number of Bidir RPs to the default:

```
switch(config)# no ip pim bidir-rp-limit 6
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>ipv6 pim bidir-rp-limit</b>	Configures the number of Bidir RPs for PIM6.
<b>show running-config</b>	Displays information about the running-system configuration.

# ip pim border

To configure an interface on an IPv4 Protocol Independent Multicast (PIM) border, use the **ip pim border** command. To remove an interface from a PIM border, use the **no** form of this command.

**ip pim border**

**no ip pim border**

**Syntax Description** This command has no arguments or keywords.

**Defaults** The interface is not on a PIM border.

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to configure an interface on a PIM border:

```
switch(config)# ip pim border
```

This example shows how to remove an interface from a PIM border:

```
switch(config)# no ip pim border
```

Related Commands	Command	Description
	<b>show ip pim interface</b>	Displays information about PIM-enabled interfaces.

# ip pim bsr bsr-policy

To allow the bootstrap router (BSR) client routers to filter IPv4 Protocol Independent Multicast (PIM) BSR messages that are based on a route-map policy, use the **ip pim bsr bsr-policy** command. To disable filtering, use the **no** form of this command.

```
ip pim bsr bsr-policy policy-name
```

```
no ip pim bsr bsr-policy [policy-name]
```

## Syntax Description

*policy-name* Route-map policy name.

## Defaults

Disabled

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

You can specify which source addresses to filter messages from with the **match ip multicast** command in a route-map policy.

This command requires the Enterprise Services license.

## Examples

This example shows how to allow the BSR client routers to filter BSR messages:

```
switch(config)# interface ethernet 2/2  
switch(config-if)# ip pim bsr bsr-policy my_bsr_policy
```

This example shows how to disable filtering:

```
switch(config)# interface ethernet 2/2  
switch(config-if)# no ip pim bsr bsr-policy
```

## Related Commands

Command	Description
<b>show ip pim rp</b>	Displays information about PIM RPs.



# ip pim bsr-candidate

To configure the router as an IPv4 Protocol Independent Multicast (PIM) bootstrap router (BSR) candidate, use the **ip pim bsr-candidate** command. To remove a router as a BSR candidate, use the **no** form of this command.

**ip pim [bsr] bsr-candidate** *if-type if-number* [**hash-len** *hash-len*] [**priority** *priority*]

**no ip pim [bsr] bsr-candidate** [*if-type if-number*] [**hash-len** *hash-len*] [**priority** *priority*]

Syntax Description		
<b>bsr</b>	(Optional) Specifies the BSR protocol RP-distribution configuration.	
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.	
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.	
<b>hash-len</b> <i>hash-len</i>	(Optional) Specifies the hash mask length used in BSR messages. The range is from 0 to 32. The default is 30.	
<b>priority</b> <i>priority</i>	(Optional) Specifies the BSR priority used in BSR messages. The range is from 0 to 255. The default is 64.	

**Defaults**  
The hash mask length is 30.  
The BSR priority is 64.

**Command Modes**  
Global configuration (config)  
VRF configuration (config-vrf)

**Supported User Roles**  
network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines**  
The interface specified is used to derive the BSR source IP address used in BSR messages.  
This command requires the Enterprise Services license.

**Examples**  
This example shows how to configure a router as a BSR candidate:

```
switch(config)# ip pim bsr-candidate ethernet 2/2
```

This example shows how to remove a router as a BSR candidate:

```
switch(config)# no ip pim bsr-candidate
```

**Related Commands**

Command	Description
<b>show ip pim rp</b>	Displays information about PIM RPs.

# ip pim bsr forward

To listen to and forward IPv4 Protocol Independent Multicast (PIM) bootstrap router (BSR) and Candidate-RP messages, use the **ip pim bsr forward** command. To disable listening and forwarding, use the **no** form of this command.

**ip pim bsr forward [listen]**

**no ip pim bsr [forward [listen]]**

Syntax Description	forward	Specifies to Forward BSR and Candidate-RP messages.
	<b>listen</b>	(Optional) Specifies to listen to BSR and Candidate-RP messages.

**Defaults** Disabled

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** A router configured as either a candidate RP or a candidate BSR will automatically listen to and forward all BSR protocol messages, unless an interface is configured with the domain border feature.

The **ip pim bsr listen** command is an alternative form of this command.

This command requires the Enterprise Services license.

**Examples** This example shows how to forward BSR and Candidate-RP messages:

```
switch(config)# ip pim bsr forward
```

This example shows how to disable forwarding:

```
switch(config)# no ip pim bsr forward
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>ip pim bsr listen</b>	Enables listening to and forwarding of BSR messages.
<b>show ip pim rp</b>	Displays information about PIM RPs.

# ip pim bsr listen

To listen to and forward IPv4 Protocol Independent Multicast (PIM) bootstrap router (BSR) and Candidate-RP messages, use the **ip pim bsr listen** command. To disable listening and forwarding, use the **no** form of this command.

**ip pim bsr listen [forward]**

**no ip pim bsr [listen [forward]]**

Syntax Description	listen	Specifies to listen to BSR and Candidate-RP messages.
	<b>forward</b>	(Optional) Specifies to forward BSR and Candidate-RP messages.

**Defaults** Disabled

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** A router configured as either a candidate RP or a candidate BSR will automatically listen to and forward all BSR protocol messages, unless an interface is configured with the domain border feature.

The **ip pim bsr forward** command is an alternative form of this command.

This command requires the Enterprise Services license.

**Examples** This example shows how to listen to and forward BSR and Candidate-RP messages:

```
switch(config)# ip pim bsr listen forward
```

This example shows how to disable listening and forwarding:

```
switch(config)# no ip pim bsr listen forward
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>ip pim bsr forward</b>	Enables listening to and forwarding of BSR messages.
<b>show ip pim rp</b>	Displays information about PIM RPs.

# ip pim bsr rp-candidate-policy

To filter IPv4 Protocol Independent Multicast (PIM) bootstrap router (BSR) Candidate-RP messages that are based on a route-map policy, use the **ip pim bsr rp-candidate-policy** command. To disable filtering, use the **no** form of this command.

**ip pim bsr rp-candidate-policy** *policy-name*

**no ip pim bsr rp-candidate-policy** [*policy-name*]

<b>Syntax Description</b>	<i>policy-name</i> Route-map policy name.
---------------------------	---

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Global configuration (config) VRF configuration (config-vrf)
----------------------	---

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	You can specify the RP and group addresses and whether the type is Bidir or ASM with the <b>match ip multicast</b> command in a route-map policy. This command requires the Enterprise Services license.
-------------------------	---

<b>Examples</b>	This example shows how to filter Candidate-RP messages: <pre>switch(config)# ip pim bsr rp-candidate-policy my_bsr_rp_candidate_policy</pre> This example shows how to disable message filtering: <pre>switch(config)# no ip pim bsr rp-candidate-policy</pre>
-----------------	---

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip pim rp</b>	Displays information about PIM RPs.

# ip pim dr-priority

To configure the designated router (DR) priority that is advertised in IPv4 Protocol Independent Multicast (PIM) hello messages, use the **ip pim dr-priority** command. To reset the DR priority to the default, use the **no** form of this command.

**ip pim dr-priority** *priority*

**no ip pim dr-priority** [*priority*]

## Syntax Description

*priority* Priority value. The range is from 1 to 4294967295. The default is 1.

## Defaults

The DR priority is 1.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to configure the DR priority on an interface:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip pim dr-priority 5
```

This example shows how to reset the DR priority on an interface to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip pim dr-priority
```

## Related Commands

Command	Description
<b>show ip pim interface</b>	Displays information about PIM-enabled interfaces.



# ip pim event-history

To configure the size of the IPv4 Protocol Independent Multicast (PIM) event history buffers, use the **ip pim event-history** command. To revert to the default buffer size, use the **no** form of this command.

```
ip pim event-history { assert-receive | bidir | cli | hello | join-prune | null-register | packet |
pim-internal | rp | vrf } size buffer-size
```

```
no ip pim event-history { assert-receive | bidir | cli | hello | join-prune | null-register | packet |
pim-internal | rp | vrf } size buffer-size
```

## Syntax Description

<b>assert-receive</b>	Configures the assert receive event history buffer.
<b>bidir</b>	Configures the Bidir event history buffer.
<b>cli</b>	Configures the CLI event history buffer.
<b>hello</b>	Configures the hello event history buffer.
<b>join-prune</b>	Configures the join-prune event history buffer.
<b>null-register</b>	Configures the null register event history buffer.
<b>packet</b>	Configures the packet event history buffer.
<b>pim-internal</b>	Configures the PIM internal event history buffer.
<b>rp</b>	Configures the rendezvous point (RP) event history buffer.
<b>vrf</b>	Configures the virtual routing and forwarding (VRF) event history buffer.
<b>size</b>	Specifies the size of the buffer to allocate.
<i>buffer-size</i>	Buffer size is one of the following values: <b>disabled</b> , <b>large</b> , <b>medium</b> , or <b>small</b> . The default buffer size is <b>small</b> .

## Defaults

All history buffers are allocated as small.

## Command Modes

Any command mode

## Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

## Command History

Release	Modification
4.1(2)	This command was introduced.

## Usage Guidelines

This command does not require a license.

---

**Examples**

This example shows how to configure the size of the PIM hello event history buffer:

```
switch(config)# ip pim event-history hello size medium
switch(config)#
```

---

**Related Commands**

Command	Description
<b>clear ip pim event-history</b>	Clears information in the IPv4 PIM event history buffers.
<b>show ip pim event-history</b>	Displays information in the IPv4 PIM event history buffers.
<b>show running-config pim</b>	Displays information about the running-system PIM configuration.

---

# ip pim flush-routes

To remove routes when the IPv4 Protocol Independent Multicast (PIM) process is restarted, use the **ip pim flush-routes** command. To leave routes in place, use the **no** form of this command.

**ip pim flush-routes**

**no ip pim flush-routes**

**Syntax Description** This command has no arguments or keywords.

**Defaults** The routes are not flushed.

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** To display whether flush routes are configured, use this command line:  
`switch(config)# show running-config | include flush-routes`

This command requires the Enterprise Services license.

**Examples** This example shows how to remove routes when the PIM process is restarted:  
`switch(config)# ip pim flush-routes`

This example shows how to leave routes in place when the PIM process is restarted:  
`switch(config)# no ip pim flush-routes`

Related Commands	Command	Description
	<code>show running-config</code>	Displays information about the running-system configuration.

## ip pim hello-authentication ah-md5

To enable an MD5 hash authentication key in IPv4 Protocol Independent Multicast (PIM) hello messages, use the **ip pim hello-authentication ah-md5** command. To disable hello-message authentication, use the **no** form of this command.

**ip pim hello-authentication ah-md5** *auth-key*

**no ip pim hello-authentication ah-md5** [*auth-key*]

### Syntax Description

*auth-key* MD5 authentication key. You can enter an unencrypted (cleartext) key, or one of these values followed by a space and the MD5 authentication key:

- 0—Specifies an unencrypted (cleartext) key
- 3—Specifies a 3-DES encrypted key
- 7—Specifies a Cisco Type 7 encrypted key

The key can be from 1 to 16 characters.

### Defaults

Disabled

### Command Modes

Interface configuration (config-if)

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0(1)	This command was introduced.

### Usage Guidelines

Triple Data Encryption Standard (3-DES) is a strong form of encryption (168-bit) that allows sensitive information to be transmitted over untrusted networks. Cisco Type 7 encryption uses the algorithm from the Vigenère cipher.

This command requires the Enterprise Services license.

### Examples

This example shows how to enable a 3-DES encrypted key for PIM hello-message authentication:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip pim hello-authentication-ah-md5 3 myauthkey
```

This example shows how to disable PIM hello-message authentication:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip pim hello-authentication-ah-md5
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip pim interface</b>	Displays information about PIM-enabled interfaces.

# ip pim hello-interval

To configure the IPv4 Protocol Independent Multicast (PIM) hello-message interval on an interface, use the **ip pim hello-interval** command. To reset the hello interval to the default, use the **no** form of this command.

**ip pim hello-interval** *interval*

**no ip pim hello-interval** [*interval*]

## Syntax Description

*interval* Interval in milliseconds. The range is from 1000 to 18724286. The default is 30000.

**Note** We do not support aggressive hello intervals. Any value below 30000 milliseconds is an aggressive PIM hello-interval value.

## Defaults

The PIM hello interval is 30,000 milliseconds.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
5.2	Changed the minimum value from 1 millisecond to 1000 milliseconds and maximum value from 4294967295 to 18724286.
4.0(1)	This command was introduced.

## Usage Guidelines

We recommend that you use BFD for PIM instead of non-default timers.  
.This command requires the Enterprise Services license.

## Examples

This example shows how to configure the PIM hello-message interval on an interface:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip pim hello-interval 20000
```

This example shows how to reset the PIM hello-message interval on an interface to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip pim hello-interval
```

## Related Commands

<b>Command</b>	<b>Description</b>
<b>show ip pim interface</b>	Displays information about PIM-enabled interfaces.

# ip pim jp-policy

To filter IPv4 Protocol Independent Multicast (PIM) join-prune messages that are based on a route-map policy, use the **ip pim jp-policy** command. To disable filtering, use the **no** form of this command.

**ip pim jp-policy** *policy-name* [**in** | **out**]

**no ip pim jp-policy** [*policy-name*]

## Syntax Description

<i>policy-name</i>	Route-map policy name.
<b>in</b>	Specifies that the system applies a filter only for incoming messages.
<b>out</b>	Specifies that the system applies a filter only for outgoing messages.

## Defaults

Disabled; no filter is applied for either incoming or outgoing messages.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.
4.2(3)	The optional <b>in</b> and <b>out</b> parameters were added.

## Usage Guidelines

Beginning with Cisco NX-OS Release 4.2(3), the **ip pim jp-policy** command filters messages in both incoming and outgoing directions. To specify filtering on only incoming messages, use the optional **in** keyword; to specify filtering on only outgoing messages, use the optional **out** keyword.

Use the **ip pim jp-policy** command to filter incoming messages. You can configure the route map to prevent state from being created in the multicast routing table.

You can specify group, group and source, or group and RP addresses to filter messages with the **match ip multicast** command.

This command requires the Enterprise Services license.

## Examples

This example shows how to filter PIM join-prune messages:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip pim jp-policy my_jp_policy
```

This example shows how to disable filtering:

```
switch(config)# interface ethernet 2/2
```



```
switch(config-if)# no ip pim jp-policy
```

**Related Commands**

Command	Description
<b>show ip pim interface</b>	Displays information about PIM-enabled interfaces.

# ip pim log-neighbor-changes

To generate syslog messages that list the IPv4 Protocol Independent Multicast (PIM) neighbor state changes, use the **ip pim log-neighbor-changes** command. To disable messages, use the **no** form of this command.

**ip pim log-neighbor-changes**

**no ip pim log-neighbor-changes**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to generate a syslog message that lists the PIM neighbor state changes:

```
switch(config)# ip pim log-neighbor-changes
```

This example shows how to disable logging:

```
switch(config)# no ip pim log-neighbor-changes
```

Related Commands	Command	Description
	logging level ip pim	Configures the logging level of PIM messages.

# ip pim neighbor-policy

To configure a route-map policy that determines which IPv4 Protocol Independent Multicast (PIM) neighbors should become adjacent, use the **ip pim neighbor-policy** command. To reset to the default, use the **no** form of this command.

**ip pim neighbor-policy** *policy-name*

**no ip pim neighbor-policy** [*policy-name*]

## Syntax Description

*policy-name* Route-map policy name.

## Defaults

Forms adjacency with all neighbors.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

You can use the **match ip address** command in a route-map policy to specify which groups to become adjacent to.

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a policy that determines which PIM neighbors should become adjacent:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip pim neighbor-policy
```

This example shows how to reset to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip pim neighbor-policy
```

## Related Commands

Command	Description
<b>show ip pim interface</b>	Displays information about PIM-enabled interfaces.

## ip pim pre-build-spt

To prebuild the shortest path tree (SPT) for all known (S,G) in the routing table by triggering Protocol Independent Multicast (PIM) joins upstream, use the **ip pim pre-build-spt** command. To reset to the default, use the **no** form of this command.

**ip pim pre-build-spt**

**no ip pim pre-build-spt**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Joins are triggered only if the OIF list is not empty.

**Command Modes** VRF configuration (config-vrf)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.2(3)	This command was introduced.

**Usage Guidelines** To prebuild the SPT for all known (S,G)s joins in the routing table by triggering PIM joins upstream, even in the absence of any receivers, use the **ip pim pre-build-spt** command.

By default, PIM (S,G) joins are triggered upstream only if the OIF-list for the (S,G) is not empty. It is useful in certain scenarios—for example, on the virtual port-channel (vPC) nonforwarding router—to prebuild the SPTs and maintain the (S,G) states even when the system is not forwarding on these routes. Prebuilding the SPT ensures faster convergence when a vPC failover occurs.

When you are running virtual port channels (vPCs), enabling this feature causes both vPC peer switches to join the SPT, even though only one vPC peer switch actually routes the multicast traffic into the vPC domain. This behavior results in the multicast traffic passing over two parallel paths from the source to the vPC switch pair, consuming bandwidth on both paths. Additionally, when both vPC peer switches join the SPT, one or more upstream devices in the network may be required to perform additional multicast replications to deliver the traffic on both parallel paths toward the receivers in the vPC domain.

This command requires the Enterprise Services license.

**Examples** This example shows how to prebuild the SPT in the absence of receivers:

```
switch(config)# vrf context Enterprise
switch(config-vrf)# ip pim pre-build-spt
switch(config-vrf)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip pim context</b>	Displays information about PIM routes.

# ip pim register-policy

To filter IPv4 Protocol Independent Multicast (PIM) Register messages that are based on a route-map policy, use the **ip pim register-policy** command. To disable message filtering, use the **no** form of this command.

**ip pim register-policy** *policy-name*

**no ip pim register-policy** [*policy-name*]

## Syntax Description

*policy-name* Route-map policy name.

## Defaults

Disabled

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

You can use the **match ip multicast** command in a route-map policy to specify the group or group and source addresses whose register messages that should be filtered.

This command requires the Enterprise Services license.

## Examples

This example shows how to enable filtering of PIM Register messages:

```
switch(config)# ip pim register-policy my_register_policy
```

This example shows how to disable message filtering:

```
switch(config)# no ip pim register-policy
```

## Related Commands

Command	Description
<b>show ip pim policy statistics register-policy</b>	Displays statistics for PIM Register messages.

# ip pim register-rate-limit

To configure a rate limit for IPv4 Protocol Independent Multicast (PIM) data registers, use the **ip pim register-rate-limit** command. To remove a rate limit, use the **no** form of this command.

**ip pim register-rate-limit** *rate*

**no ip pim register-rate-limit** [*rate*]

<b>Syntax Description</b>	<i>rate</i>	Rate in packets per second. The range is from 1 to 65,535.
---------------------------	-------------	--

<b>Defaults</b>	None	
-----------------	------	--

<b>Command Modes</b>	Global configuration (config)	
----------------------	-------------------------------	--

<b>SupportedUserRoles</b>	network-admin vdc-admin	
---------------------------	----------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(3)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.	
-------------------------	--	--

<b>Examples</b>	This example shows how to configure a rate limit for PIM data registers:	
	<code>switch(config)# ip pim register-rate-limit 1000</code>	
	This example shows how to remove a rate limit:	
	<code>switch(config)# no ip pim register-rate-limit</code>	

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
		<code>show ip pim vrf detail</code>

# ip pim register-until-stop

To configure the device to continue to send PIM data registers from the first-hop router until a PIM register-stop message is received, use the **ip pim register-until-stop** command. To return to default setting, use the **no** form of this command.

**ip pim register-until-stop**

**no ip pim register-until-stop**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	5.2(1)	This command was introduced.

**Usage Guidelines** Must have PIM enabled.  
This command does not require a license.

**Examples** This example shows how to configure send data registers till register stop is received:

```
switch(config)# ip pim register-until-stop
```

Related Commands	Command	Description
	<b>show running-config</b> <b>pim</b>	Displays the current operating information about the PIM configuration.



# ip pim rp-address

To configure an IPv4 Protocol Independent Multicast (PIM) static route processor (RP) address for a multicast group range, use the **ip pim rp-address** command. To remove a static RP address, use the **no** form of this command.

**ip pim rp-address** *rp-address* [**group-list** *prefix* | **override** | **route-map** *policy-name*] [**bidir**]

**no ip pim rp-address** *rp-address* [**group-list** *prefix* | **override** | **route-map** *policy-name*] [**bidir**]

## Syntax Description

<i>rp-address</i>	IP address of a router which is the RP for a group range.
<b>group-list</b> <i>prefix</i>	(Optional) Specifies a group range for a static RP.
<b>override</b>	(Optional) Specifies the RP address. The RP address overrides the dynamically learned RP addresses.
<b>route-map</b> <i>policy-name</i>	(Optional) Specifies a route-map policy name.
<b>bidir</b>	(Optional) Specifies to handle a group range in PIM bidirectional (Bidir) mode.

## Defaults

The group range is treated in ASM mode.

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
5.1(1)	Added the keyword <b>override</b> .
4.0(1)	This command was introduced.
4.2(1)	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .

## Usage Guidelines

The **match ip multicast** command is the only **match** command that is evaluated in the route map. You can specify group prefix to filter messages with the **match ip multicast** command.

You can use this override provision, if you want the static RPs always to override the dynamic ones.

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a PIM static RP address for a serving group range and to override any dynamically learned (through BSR) RP addresses:

```
switch(config)# ip pim rp-address 1.1.1.1 group-list 225.1.0.0/16 override
```

This example shows how to configure a PIM static RP address for a group range:

```
switch(config)# ip pim rp-address 192.0.2.33 group-list 224.0.0.0/9
```

This example shows how to remove a static RP address:

```
switch(config)# no ip pim rp-address 192.0.2.33
```

---

**Related Commands**

Command	Description
<b>show ip pim rp</b>	Displays information about PIM RPs.

---

# ip pim rp-candidate

To configure the router as an IPv4 Protocol Independent Multicast (PIM) bootstrap router (BSR) route processor (RP) candidate, use the **ip pim rp-candidate** command. To remove the router as an RP candidate, use the **no** form of this command.

**ip pim [bsr] rp-candidate** *if-type if-number* {**group-list prefix**} [**priority priority**] [**interval interval**] [**bidir**]

**no ip pim [bsr] rp-candidate** [*if-type if-number*] {**group-list prefix**} [**priority priority**] [**interval interval**] [**bidir**]

Syntax Description	
<b>bsr</b>	(Optional) Specifies the BSR protocol RP-distribution configuration.
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>group-list prefix</b>	Specifies a group range handled by the RP.
<b>priority priority</b>	(Optional) Specifies the RP priority used in candidate-RP messages. The range is from 0 to 65,535. The default is 192.
<b>interval interval</b>	(Optional) Specifies the BSR message transmission interval in seconds. The range is from 1 to 65,535. The default is 60.
<b>bidir</b>	(Optional) Specifies the group range advertised in PIM bidirectional (Bidir) mode.

**Defaults**  
 The RP priority is 192.  
 The BSR message interval is 60 seconds.

**Command Modes**  
 Global configuration (config)  
 VRF configuration (config-vrf)

**SupportedUserRoles**  
 network-admin  
 vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines**  
 We recommend that you configure the candidate RP interval to be a minimum of 15 seconds. Using this route map, you can add a range of group lists that this candidate-RP can serve. This command requires the Enterprise Services license.

**Note**

Use the same configuration guidelines for the route-map auto-rp-range that you used when you created a route map for static RPS.

**Examples**

This example shows how to configure the router as a PIM BSR RP candidate:

```
switch(config)# ip pim rp-candidate e 2/11 group-list 239.0.0.0/24
```

This example shows how to remove the router as an RP candidate:

```
switch(config)# no ip pim rp-candidate
```

**Related Commands**

Command	Description
<code>show ip pim rp</code>	Displays information about PIM RPs.

# ip pim send-rp-announce

To configure an IPv4 Protocol Independent Multicast (PIM) Auto-RP candidate route processor (RP), use the **ip pim send-rp-announce** command. To remove an Auto-RP candidate RP, use the **no** form of this command.

```
ip pim send-rp-announce if-type if-number {group-list prefix} {[scope ttl] | [interval interval] | [bidir]}
```

```
no ip pim send-rp-announce [if-type if-number] [group-list prefix] {[scope ttl] | [interval interval] | [bidir]}
```

## Syntax Description

<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>group-list prefix</b>	Specifies a group range handled by the RP.
<b>scope ttl</b>	(Optional) Specifies a time-to-live (TTL) value for the scope of Auto-RP Announce messages. The range is from 1 to 255. The default is 32.  <b>Note</b> See the <b>ip pim border</b> command to explicitly define a router on the edge of a PIM domain rather than using the <b>scope</b> argument.
<b>interval interval</b>	(Optional) Specifies an Auto-RP Announce message transmission interval in seconds. The range is from 1 to 65,535. The default is 60.
<b>bidir</b>	(Optional) Specifies that the group range is advertised in PIM bidirectional (Bidir) mode.

## Defaults

The TTL is 32.  
The Auto-RP Announce message interval is 60 seconds.

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

The **scope**, **interval**, and **bidir** keywords can be entered once and in any order.  
The **ip pim auto-rp rp-candidate** command is an alternative form of this command.

This command requires the Enterprise Services license.

---

**Examples**

This example shows how to configure a PIM Auto-RP candidate RP:

```
switch(config)# ip pim send-rp-announce ethernet 2/1 group-list 239.0.0.0/24
```

This example shows how to remove a PIM Auto-RP candidate RP:

```
switch(config)# no ip pim send-rp-announce ethernet 2/1 group-list 239.0.0.0/24
```

---

**Related Commands**

Command	Description
<b>ip pim auto-rp rp-candidate</b>	Configures a PIM Auto-RP candidate RP.
<b>show ip pim interface</b>	Displays information about PIM-enabled interfaces.

# ip pim send-rp-discovery

To configure the router as an IPv4 Protocol Independent Multicast (PIM) Auto-RP mapping agent that sends RP-Discovery messages, use the **ip pim send-rp-discovery** command. To remove the configuration, use the **no** form of this command.

**ip pim send-rp-discovery** *if-type if-number* [**scope** *t1*]

**no ip pim send-rp-discovery** [*if-type if-number*] [**scope** *t1*]

Syntax Description	
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>scope</b> <i>t1</i>	(Optional) Specifies the time-to-live (TTL) value for the scope of Auto-RP Discovery messages. The range is from 1 to 255. The default is 32.
<b>Note</b>	See the <b>ip pim border</b> command to explicitly define a router on the edge of a PIM domain rather than using the <b>scope</b> argument.

**Defaults** The TTL is 32.

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** The **ip pim auto-rp mapping-agent** command is an alternative form of this command. This command requires the Enterprise Services license.

**Examples** This example shows how to configure an Auto-RP mapping agent:

```
switch(config)# ip pim send-rp-discovery ethernet 2/1
```

This example shows how to remove an Auto-RP mapping agent:

```
switch(config)# no ip pim send-rp-discovery ethernet 2/1
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip pim rp</b>	Displays information about PIM RPs.
<b>ip pim auto-rp mapping-agent</b>	Configures a router as an Auto-RP mapping agent.
<b>ip pim border</b>	Configures a router to be on the edge of a PIM domain.



# ip pim sg-expiry-timer

To adjust the (S,G) expiry timer interval for Protocol Independent Multicast sparse mode (PIM-SM) (S,G) multicast routes, use the **ip pim sg-expiry-timer** command. To reset to the default values, use the **no** form of the command.

**ip pim** [*sparse*] **sg-expiry-timer** *seconds* [**sg-list** *route-map*]

**no ip pim** [*sparse*] **sg-expiry-timer** *seconds* [**sg-list** *route-map*]

## Syntax Description

<b>sparse</b>	(Optional) Specifies sparse mode.
<i>seconds</i>	Expiry-timer interval. The range is from 180 to 57600 seconds.
<b>sg-list</b> <i>route-map</i>	(Optional) Specifies S,G values to which the timer applies.

## Defaults

The default is 180 seconds.  
The timer applies to all (S,G) multicast routes in the routing table.

## Command Modes

VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.2(2)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to configure the expiry interval to 300 seconds for all (S,G) multicast routes:

```
switch(config)# vrf context Enterprise
switch(config-vrf)# ip pim sg-expiry-timer 300
switch(config-vrf)#
```

## Related Commands

Command	Description
<b>show ip pim context</b>	Displays information about the PIM configuration.

# ip pim sparse-mode

To enable IPv4 Protocol Independent Multicast (PIM) sparse mode on an interface, use the **ip pim sparse-mode** command. To disable PIM on an interface, use the **no** form of this command.

**ip pim sparse-mode**

**no ip pim [sparse-mode]**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to enable PIM sparse mode on an interface:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ip pim sparse-mode
```

This example shows how to disable PIM on an interface:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ip pim
```

Related Commands	Command	Description
	<b>show ip pim interface</b>	Displays information about PIM-enabled interfaces.

# ip pim spt-threshold infinity

To create the IPv4 Protocol Independent Multicast (PIM) (\*, G) state only (where no source state is created), use the **ip pim spt-threshold infinity** command. To remove the creation of the shared tree state only, use the **no** form of this command.

**ip pim spt-threshold infinity group-list** *route-map-name*

**no ip pim spt-threshold infinity** [*group-list route-map-name*]

<b>Syntax Description</b>	<i>route-map-name</i>	Route-map name that defines the group prefixes where this feature is applied.
---------------------------	-----------------------	---

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Global configuration (config) VRF configuration (config-vrf)
----------------------	---

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.1(2)	Keyword <b>group-list</b> was added and a route-map name is used to define groups.

**Usage Guidelines** The **match ip multicast** command is the only match command that is evaluated in the route map. You can specify the group prefix to filter messages with the match ip multicast command.

You must have enabled PIM before you can use this command.



**Note** This command is not supported for virtual port channels (vPCs).



**Note** Prior to Cisco NX-OS Release 5.2(3), the route map specified by the **ip pim spt-threshold infinity group-list route-map** command was limited to 50 sequence lines. Starting in Cisco NX-OS Release 5.2(3), the number of sequence lines in the route map has increased to 500. If you specify more than 500 sequence lines in a route map, they are not functional.

This command requires the Enterprise Services license.

---

**Examples**

This example shows how to create the PIM (\*, G) state only for the group prefixes defined in my\_group\_map:

```
switch(config)# ip pim spt-threshold infinity group-list my_group_map
```

This example shows how to remove the creation of the (\*, G) state only:

```
switch(config)# no ip pim spt-threshold infinity
```

---

**Related Commands**

Command	Description
show ip pim rp	Displays information about PIM RPs.

# ip pim ssm policy

To configure group ranges for Source Specific Multicast (SSM) using a route-map policy, use the **ip pim ssm policy** command. To remove the SSM group range policy, use the **no** form of this command.

**ip pim ssm policy** *policy-name*

**no ip pim ssm policy** *policy-name*

<b>Syntax Description</b>	<i>policy-name</i> Route-map policy name that defines the group prefixes where this feature is applied.
---------------------------	---

<b>Defaults</b>	The SSM range is 232.0.0.0/8.
-----------------	-------------------------------

<b>Command Modes</b>	Global configuration (config) VRF configuration (config-vrf)
----------------------	---

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

Command History	Release	Modification
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

<b>Examples</b>	This example shows how to configure a group range for SSM: <code>switch(config)# ip pim ssm policy my_ssm_policy</code>
	This example shows how to reset the group range to the default: <code>switch(config)# no ip pim ssm policy my_ssm_policy</code>

Related Commands	Command	Description
	<code>show ip pim group-range</code>	Displays information about PIM group ranges.

## ip pim ssm range

To configure group ranges for Source Specific Multicast (SSM), use the **ip pim ssm range** command. To reset the SSM group range to the default, use the **no** form of this command with the **none** keyword.

```
ip pim ssm {range {groups | none} | route-map policy-name}
```

```
no ip pim ssm {range {groups | none} | route-map policy-name}
```

### Syntax Description

<i>groups</i>	List of up to four group range prefixes.
<b>none</b>	Removes all group ranges.
<b>route-map</b> <i>policy-name</i>	Specifies the route-map policy name.

### Defaults

The SSM range is 232.0.0.0/8.

### Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(2)	The keyword <b>none</b> was added.
4.2(1)	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .

### Usage Guidelines

The **match ip multicast** command is the only **match** command that is evaluated in the route map. You can specify the group prefix to filter messages with the **match ip multicast** command.

This command requires the Enterprise Services license.

### Examples

This example shows how to configure a group range for SSM:

```
switch(config)# ip pim ssm range 239.128.1.0/24
```

This example shows how to reset the group range to the default:

```
switch(config)# no ip pim ssm range none
```

This example shows how to remove all group ranges:

```
switch(config)# ip pim ssm range none
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip pim group-range</b>	Displays information about PIM group ranges.

## ip pim state-limit

To configure a maximum number of IPv4 Protocol Independent Multicast (PIM) state entries in the current virtual routing and forwarding (VRF) instance, use the **ip pim state-limit** command. To remove the limit on state entries, use the **no** form of this command.

**ip pim state-limit** *max-states* [**reserved** *policy-name max-reserved*]

**no ip pim state-limit** [*max-states* [**reserved** *policy-name max-reserved*]]

### Syntax Description

<i>max-states</i>	Maximum number of (*, G) and (S, G) entries allowed in this VRF. The range is from 1 to 4294967295. The default is no limit.
<b>reserved</b>	(Optional) Specifies that a number of state entries are to be reserved for the routes specified in a policy map.
<i>policy-name</i>	(Optional) Route-map policy name.
<i>max-reserved</i>	(Optional) Maximum reserved (*, G) and (S, G) entries allowed in this VRF. Must be less than or equal to the maximum states allowed.

### Defaults

None

### Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0(1)	This command was introduced.

### Usage Guidelines

To display commands where state limits are configured, use this command line:

```
switch(config)# show running-config | include state-limit
```

This command requires the Enterprise Services license.

### Examples

This example shows how to configure a state entry limit with a number of state entries reserved for routes in a policy map:

```
switch(config)# ip pim state-limit 100000 reserved my_reserved_policy 40000
```



This example shows how to remove the limits on state entries:

```
switch(config)# no ip pim state-limit
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show running-config</b>	Displays information about the running-system configuration.

---

## ip pim use-shared-tree-only

To create the IPv4 Protocol Independent Multicast (PIM) (\*, G) state only (where no source state is created), use the **ip pim use-shared-tree-only** command. To remove the creation of the shared tree state only, use the **no** form of this command.

```
ip pim use-shared-tree-only group-list policy-name
```

```
no ip pim use-shared-tree-only [group-list policy-name]
```

### Syntax Description

*policy-name* Route-map policy name that defines the group prefixes where this feature is applied.

### Defaults

None

### Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

### Supported User Roles

network-admin  
vdc-admin

### Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(2)	The keyword <b>group-list</b> was added and a route-map policy name was used to define groups.

### Usage Guidelines

You can use the **match ip multicast** command in a route-map policy to specify the groups where shared trees should be enforced.

You must have enabled PIM before you can use this command.



#### Note

This command is not supported for virtual port channels (vPCs).

This command requires the Enterprise Services license.

### Examples

This example shows how to create the PIM (\*, G) state only for the group prefixes defined in `my_group_policy`:

```
switch(config)# ip pim use-shared-tree-only group-list my_group_policy
```

This example shows how to remove the creation of the (\*, G) state only:

```
switch(config)# no ip pim use-shared-tree-only
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip pim rp</b>	Displays information about PIM RPs.

# ip routing multicast event-history

To configure the size of the IPv4 Multicast Routing Information Base (MRIB) event history buffers, use the **ip routing multicast event-history** command. To revert to the default buffer size, use the **no** form of this command.

```
ip routing multicast event-history {cli | mfdm-debug | mfdm-events | mfdm-stats | rib | vrf}
  size buffer-size
```

```
no ip routing multicast event-history {cli | mfdm | mfdm-stats | rib | vrf} size buffer-size
```

Syntax Description		
	<b>cli</b>	Configures the CLI event history buffer.
	<b>mfdm-debug</b>	Configures the Multicast Forwarding Distribution Module (MFDM) debug event history buffer.
	<b>mfdm-events</b>	Configures the (MFDM) non periodic events event history buffer.
	<b>mfdm-stats</b>	Configures the MFDM sum event history buffer.
	<b>rib</b>	Configures the RIB event history buffer.
	<b>vrf</b>	Configures the virtual routing and forwarding (VRF) event history buffer.
	<b>size</b>	Specifies the size of the buffer to allocate.
	<i>buffer-size</i>	Buffer size that is one of the following values: <b>disabled</b> , <b>large</b> , <b>medium</b> , or <b>small</b> . The default buffer size is <b>small</b> .

**Command Default** All history buffers are allocated as small.

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.1(2)	This command was introduced.
	4.2(1)	Added the keyword <b>mfdm-events</b> . Changed the keyword <b>mfdm</b> to <b>mfdm-debug</b> .

**Usage Guidelines** To display configured buffer sizes, use this command line:

```
switch(config)# show running-config | include "ip routing"
```

This command does not require a license.

**Examples**

This example shows how to configure the size of the MRIB MFDM event history buffer:

```
switch(config)# ip routing multicast event-history mfdm size large
switch(config)#
```

**Related Commands**

Command	Description
<b>clear ip routing multicast event-history</b>	Clears information in the IPv4 MRIB event history buffers.
<b>show routing ip multicast event-history</b>	Displays information in the IPv4 MRIB event history buffers.
<b>show running-config</b>	Displays information about the running-system configuration.

# ip routing multicast holddown

To configure the IPv4 multicast routing initial holddown period, use the **ip routing multicast holddown** command. To revert to the default holddown period, use the **no** form of this command.

```
[ip | ipv4] routing multicast holddown holddown-period
```

```
no [ip | ipv4] routing multicast holddown holddown-period
```

Syntax Description	ipv4	(Optional)
	<i>holddown-period</i>	Initial route holddown period in seconds. The range is from 90 to 210. Specify 0 to disable the holddown period. The default is 210.

**Defaults** The holddown period is 210 seconds.

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.2(1)	This command was introduced.

**Usage Guidelines** To display the holddown period configuration, use this command line:

```
switch(config)# show running-config | include "ip routing multicast holddown"
```

This command does not require a license.

**Examples** This example shows how to configure the routing holddown period:

```
switch(config)# ip routing multicast holddown 100
switch(config)#
```

Related Commands	Command	Description
	<b>show running-config</b>	Displays information about the running-system configuration.

# ip routing multicast software-replicate

To enable software replication of IPv4 Protocol Independent Multicast (PIM) Any Source Multicast (ASM) packets that are leaked to the software for state creation, use the **ip routing multicast software-replicate** command. To reset to the default, use the **no** form of this command.

**ip routing multicast software-replicate**

**no ip routing multicast software-replicate**

**Syntax Description** This command has no arguments or keywords.

**Defaults** No software replication.

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.2(3)	This command was introduced.

**Usage Guidelines** By default, these packets are used by the software only for (S,G) state creation and then dropped.  
  
This command does not require a license.

**Examples** This example shows how to enable software replication of IPv4 PIM ASM packets:

```
switch(config)# ip routing multicast software-replicate
switch(config)#
```

Related Commands	Command	Description
	<b>show running-config</b>	Displays information about the running-system configuration.

# ipv6 mld access-group

To enable a Multicast Listener Discovery (MLD) route-map policy to control the multicast groups that hosts on a subnet serviced by an interface can join, use the **ipv6 mld access-group** command. To disable the route-map policy, use the **no** form of this command.

**ipv6 [icmp] mld access-group** *policy-name*

**no ipv6 [icmp] mld access-group** [*policy-name*]

Syntax Description	icmp	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	<i>policy-name</i>	Specifies the route-map policy name.

**Defaults** Disabled

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to enable an MLD route-map policy:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld access-group my_access_group_policy
switch(config-if)#
```

This example shows how to disable a route-map policy:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld access-group
switch(config-if)#
```

Related Commands	Command	Description
	<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.



# ipv6 mld group-timeout

To configure the Multicast Listener Discovery (MLD) group membership timeout, use the **ipv6 mld group-timeout** command. To reset to the default, use the **no** form of this command.

**ipv6 [icmp] mld group-timeout** *time*

**no ipv6 [icmp] mld group-timeout** [*time*]

Syntax Description	icmp	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	<i>time</i>	Time in seconds. The range is from 3 to 65,535. The default is 260.

**Defaults** The group membership timeout is 260 seconds.

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to configure a group membership timeout:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld group-timeout 200
switch(config-if)#
```

This example shows how to reset a group membership timeout to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld group-timeout
switch(config-if)#
```

Related Commands	Command	Description
	<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld immediate-leave

To enable the device to remove the group entry from the IPv6 multicast routing table immediately upon receiving a leave message for the group, use the **ipv6 mld immediate-leave** command. To disable the immediate leave option, use the **no** form of this command.

**ipv6 [icmp] mld immediate-leave**

**no ipv6 [icmp] mld immediate-leave**

## Syntax Description

<b>icmp</b>	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
-------------	---

## Defaults

The immediate leave feature is disabled.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.1(3)	This command was introduced.

## Usage Guidelines

Use the **ipv6 mld immediate-leave** command only when there is one receiver behind the interface for a given group.

This command does not require a license.

## Examples

This example shows how to enable the immediate leave feature:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld immediate-leave
```

This example shows how to disable the immediate leave feature:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld immediate-leave
```

## Related Commands

Command	Description
<b>show ip igmp interface</b>	Displays IGMP information about the interface.

# ipv6 mld join-group

To statically bind a multicast group to an interface, use the **ipv6 mld join-group** command. To remove a group binding, use the **no** form of this command.

**ipv6 [icmp] mld join-group** { *group* [*source source*] | **route-map** *policy-name* }

**no ipv6 [icmp] mld join-group** { *group* [*source source*] | **route-map** *policy-name* }

Syntax Description	Parameter	Description
	<b>icmp</b>	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	<i>group</i>	Multicast group IPv6 address.
	<b>source</b> <i>source</i>	(Optional) Specifies a source IP address for an MLDv2 (S, G) channel.
	<b>route-map</b> <i>policy-name</i>	Specifies the route-map policy name that defines the group prefixes where this feature is applied.

**Defaults** None

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.2(1)	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .

**Usage Guidelines** If you specify only the group address, the (\*, G) state is created. If you specify the source address, the (S, G) state is created.

The **match ipv6 multicast** command is the only **match** command that is evaluated in the route map. You can specify the group prefix, group range, and source prefix to filter messages with the **match ipv6 multicast** command.



**Note**

A source tree is built for the (S, G) state only if you enable MLDv2, which is the default.



**Caution**

When you enter this command, the traffic generated is handled by the device CPU, not the hardware.

This command requires the Enterprise Services license.

---

**Examples**

This example shows how to statically bind a group to an interface:

```
switch(config)# interface ethernet 2/2  
switch(config-if)# ipv6 mld join-group FFFE::1  
switch(config-if)#
```

This example shows how to remove a group binding from an interface:

```
switch(config)# interface ethernet 2/2  
switch(config-if)# no ipv6 mld join-group FFFE::1  
switch(config-if)#
```

---

**Related Commands**

Command	Description
<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

---

# ipv6 mld last-member-query-count

To configure the number of times that the software sends a Multicast Listener Discovery (MLD) query in response to a host leave message, use the **ipv6 mld last-member-query-count** command. To reset the query interval to the default, use the **no** form of this command.

**ipv6 [icmp] mld last-member-query-count** *count*

**no ipv6 [icmp] mld last-member-query-count** [*count*]

Syntax Description	icmp	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	count	Query count. The range is from 1 to 5. The default is 2.

**Defaults** The query count is 2.

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to configure a query count:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld last-member-query-count 3
switch(config-if)#
```

This example shows how to reset a query count to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld last-member-query-count
switch(config-if)#
```

Related Commands	Command	Description
	<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld last-member-query-response-time

To configure a query interval in which the software sends membership reports and then deletes the group state, use the **ipv6 mld last-member-query-response-time** command. To reset the interval to the default, use the **no** form of this command.

```
ipv6 [icmp] mld last-member-query-response-time interval
```

```
no ipv6 [icmp] mld last-member-query-response-time [interval]
```

## Syntax Description

<b>icmp</b>	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
<i>interval</i>	Query interval in seconds. The range is from 1 to 25. The default is 1.

## Defaults

The query interval is 1.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a query interval:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld last-member-query-response-time 3
switch(config-if)#
```

This example shows how to reset a query interval to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld last-member-query-response-time
switch(config-if)#
```

## Related Commands

Command	Description
<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld querier-timeout

To configure the Multicast Listener Discovery (MLD) querier timeout for MLDv1, use the **ipv6 mld querier-timeout** command. To reset the timeout to the default, use the **no** form of this command.

**ipv6 [icmp] mld querier-timeout** *timeout*

**no ipv6 [icmp] mld querier-timeout** [*timeout*]

Syntax Description	icmp	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	timeout	Timeout in seconds. The range is from 1 to 65,535. The default is 255.

**Defaults** The querier timeout is 255 seconds

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** The **ipv6 mld query-timeout** command is an alternative form of this command. This command requires the Enterprise Services license.

**Examples** This example shows how to configure a querier timeout:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld querier-timeout 200
switch(config-if)#
```

This example shows how to reset a querier timeout to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld querier-timeout
switch(config-if)#
```

Related Commands	Command	Description
	ipv6 mld querier-timeout	Configures a querier timeout.
	show ipv6 mld interface	Displays information about ICMPv6 interfaces.



# ipv6 mld query-interval

To configure the Multicast Listener Discovery (MLD) interval between query transmissions, use the **ipv6 mld query-interval** command. To reset the interval to the default, use the **no** form of this command.

**ipv6 [icmp] mld query-interval** *interval*

**no ipv6 [icmp] mld query-interval** [*interval*]

Syntax Description	icmp	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	<i>interval</i>	Interval in seconds. The range is from 1 to 18,000. The default is 125.

**Defaults** The query interval is 125 seconds.

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to configure a query interval:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld query-interval 100
switch(config-if)#
```

This example shows how to reset a query interval to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld query-interval
switch(config-if)#
```

Related Commands	Command	Description
	<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld query-max-response-time

To configure the Multicast Listener Discovery (MLD) maximum response time for query messages, use the **ipv6 mld query-max-response-time** command. To reset the response time to the default, use the **no** form of this command.

```
ipv6 [icmp] mld query-max-response-time time
```

```
no ipv6 [icmp] mld query-max-response-time [time]
```

## Syntax Description

<b>icmp</b>	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
<b>time</b>	Time in seconds. The range is from 1 to 8387. The default is 10.

## Defaults

The maximum query response time is 10 seconds.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a query maximum response time:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld query-max-response-time 15
switch(config-if)#
```

This example shows how to reset a query maximum response time to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld query-max-response-time
switch(config-if)#
```

## Related Commands

Command	Description
<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld query-timeout

To configure the Multicast Listener Discovery (MLD) querier timeout for MLDv1, use the **ipv6 mld query-timeout** command. To reset the timeout to the default, use the **no** form of this command.

```
ipv6 [icmp] mld query-timeout timeout
```

```
no ipv6 [icmp] mld query-timeout [timeout]
```

Syntax Description	icmp	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	<i>timeout</i>	Timeout in seconds. The range is from 1 to 65,535. The default is 255.

**Defaults** The querier timeout is 255 seconds.

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** The **ipv6 mld querier-timeout** command is an alternative form of this command. This command requires the Enterprise Services license.

**Examples** This example shows how to configure a querier timeout:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld query-timeout 200
switch(config-if)#
```

This example shows how to reset a querier timeout to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld query-timeout
switch(config-if)#
```

Related Commands	Command	Description
	<b>ipv6 mld querier-timeout</b>	Configures a querier timeout.
	<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld report-link-local-groups

To enable Multicast Listener Discovery (MLD) to send reports for link-local groups, use the **ipv6 mld report-link-local-groups** command. To disable sending reports to link-local groups, use the **no** form of this command.

**ipv6 [icmp] mld report-link-local-groups**

**no ipv6 [icmp] mld report-link-local-groups**

<b>Syntax Description</b>	<b>icmp</b> (Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
---------------------------	---

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

**Examples** This example shows how to enable sending reports to link-local groups:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld report-link-local-groups
switch(config-if)#
```

This example shows how to disable sending reports to link-local groups:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld report-link-local-groups
switch(config-if)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld report-policy

To enable an access policy that is based on a route-map policy for Multicast Listener Discovery (MLD) reports, use the **ipv6 mld report-policy** command. To disable the route-map policy, use the **no** form of this command.

**ipv6 [icmp] mld report-policy** *policy-name*

**no ipv6 [icmp] mld report-policy** [*policy-name*]

## Syntax Description

<b>icmp</b>	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
<i>policy-name</i>	Route-map policy name.

## Defaults

Disabled

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to enable an access policy for MLD reports:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld report-policy my_report_policy
switch(config-if)#
```

This example shows how to disable an access policy for MLD reports:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld report-policy
switch(config-if)#
```

## Related Commands

Command	Description
<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld robustness-variable

To configure a Multicast Listener Discovery (MLD) robustness count that you can tune to reflect the expected packet loss on a congested network, use the **ipv6 mld robustness-variable** command. To reset the count to the default, use the **no** form of this command.

**ipv6 [icmp] mld robustness-variable** *count*

**no ipv6 [icmp] mld robustness-variable** [*count*]

Syntax Description	icmp	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	count	Robustness count. The range is from 1 to 7. The default is 2.

**Defaults** The robustness count is 2.

**Command Modes** Interface configuration (config-if)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to configure a robustness count:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld robustness-variable 3
switch(config-if)#
```

This example shows how to reset a robustness count to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld robustness-variable
switch(config-if)#
```

Related Commands	Command	Description
	<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld ssm-translate

To translate Multicast Listener Discovery (MLD) version 1 reports to create (S, G) state entries so that the router treats them as MLDv2 membership reports, use the **ipv6 mld ssm-translate** command. To remove the translation, use the **no** form of this command.

```
ipv6 [icmp] mld ssm-translate group source
```

```
no ipv6 [icmp] mld ssm-translate group source
```

Syntax Description	icmp	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	group	IPv6 multicast group range. By default, the group prefix range is FF3x/96. To modify the IPv6 Protocol Independent Multicast (PIM6) SSM range, see the <b>ipv6 pim ssm range</b> command.
	source	IPv6 multicast source address.

**Defaults** None

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** To display SSM translation commands, use this command line:

```
switch(config)# show running-config | include ssm-translation
```

This command requires the Enterprise Services license.

**Examples** This example shows how to configure a translation:

```
switch(config)# ipv6 mld ssm-translate FF30::0/16 2001:0DB8:0:ABCD::1
```

This example shows how to remove a translation:

```
switch(config)# no ipv6 mld ssm-translate FF30::0/16 2001:0DB8:0:ABCD::1
```



**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show running-config</b>	Displays information about the running-system configuration.

# ipv6 mld startup-query-count

To configure the query count used when the Multicast Listener Discovery (MLD) process starts up, use the **ipv6 mld startup-query-count** command. To reset the query count to the default, use the **no** form of this command.

```
ipv6 [icmp] mld startup-query-count count
```

```
no ipv6 [icmp] mld startup-query-count [count]
```

Syntax Description	icmp	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	count	Query count. The range is from 1 to 10. The default is 2.

**Defaults** The query count is 2.

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to configure a query count:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld startup-query-count 3
switch(config-if)#
```

This example shows how to reset a query count to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld startup-query-count
switch(config-if)#
```

Related Commands	Command	Description
	show ipv6 mld interface	Displays information about ICMPv6 interfaces.

# ipv6 mld startup-query-interval

To configure the query interval used when the Multicast Listener Discovery (MLD) process starts up, use the **ipv6 mld startup-query-interval** command. To reset the query interval to the default, use the **no** form of this command.

**ipv6 [icmp] mld startup-query-interval** *interval*

**no ipv6 [icmp] mld startup-query-interval** [*interval*]

## Syntax Description

<b>icmp</b>	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
<i>interval</i>	Query interval in seconds. The range is from 1 to 18,000. The default is 31.

## Defaults

The startup query interval is 31 seconds.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a startup query interval:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld startup-query-interval 25
switch(config-if)#
```

This example shows how to reset a startup query interval to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld startup-query-interval
switch(config-if)#
```

## Related Commands

Command	Description
<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld state-limit

To configure the Multicast Listener Discovery (MLD) maximum states allowed, use the **ipv6 mld state-limit** command. To remove the limit, use the **no** form of this command.

```
ipv6 [icmp] mld state-limit max-states [reserved reserve-policy max-reserved]
```

```
no ipv6 [icmp] mld state-limit [max-states [reserved reserve-policy max-reserved]]
```

Syntax Description	
<b>icmp</b>	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
<i>max-states</i>	Maximum states allowed. The range is from 1 to 4,294,967,295.
<b>reserved</b>	(Optional) Specifies to use the route-map policy name for the reserve policy and set the maximum number of (*, G) and (S, G) entries allowed on the interface.
<i>reserve-policy</i>	
<i>max-reserved</i>	

**Defaults** None

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to configure a state limit:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld state-limit 5000
switch(config-if)#
```

This example shows how to remove a state limit:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld state-limit
switch(config-if)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.

# ipv6 mld static-oif

To statically bind a multicast group to the outgoing interface (OIF), which is handled by the device hardware, use the **ipv6 mld static-oif** command. To remove the static OIF, use the **no** form of this command.

```
ipv6 [icmp] mld static-oif {group [source source] | route-map policy-name}
```

```
no ipv6 [icmp] mld static-oif {group [source source] | route-map policy-name}
```

Syntax Description	Parameter	Description
	<b>icmp</b>	(Optional) Specifies the Internet Control Message Protocol (ICMP) designator.
	<i>group</i>	Multicast group IPv6 address. If you specify only the group address, the (*, G) state is created.
	<b>source</b> <i>source</i>	(Optional) Configures the source IPv6 address for MLDv2 and creates the (S, G) state.  <b>Note</b> A source tree is built for the (S, G) state only if you enable MLDv2, which is the default.
	<b>route-map</b> <i>policy-name</i>	Specifies the route-map policy name that defines the group prefixes where this feature is applied.

**Defaults** None

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.2(1)	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .

**Usage Guidelines** The **match ipv6 multicast** command is the only **match** command that is evaluated in the route map. You can specify the group prefix, group range, and source prefix to filter messages with the **match ipv6 multicast** command.

This command requires the Enterprise Services license.

**Examples** This example shows how to statically bind a group to the OIF:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 mld static-oif FFFE::1
switch(config-if)#
```

This example shows how to remove a static binding from the OIF:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 mld static oif FFFE::1
switch(config-if)#
```

---

**Related Commands**

Command	Description
<b>show ipv6 mld local-groups</b>	Displays information about the MLD local group membership.

---

# ipv6 mld version

To configure the Multicast Listener Discovery (MLD) version on an interface, use the **ipv6 mld version** command. To reset the version to the default, use the **no** form of this command.

**ipv6 mld version** *version*

**no ipv6 mld version** [*version*]

## Syntax Description

<i>version</i>	Version number. The number is 1 or 2. The default is 2.
----------------	---

## Defaults

The version number is 2.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

This command requires the Enterprise Services license.

## Examples

This example shows how to configure the MLD version:

```
switch(config)# ipv6 mld version 1
```

This example shows how to reset the MLD version to the default:

```
switch(config)# no ipv6 mld version
```

## Related Commands

Command	Description
<b>show ipv6 mld interface</b>	Displays information about ICMPv6 interfaces.



# ipv6 pim anycast-rp

To configure an IPv6 Protocol Independent Multicast (PIM6) Anycast-RP peer for the specified Anycast-RP address, use the **ipv6 pim anycast-rp** command. To remove the peer, use the **no** form of this command.

**ipv6 pim anycast-rp** *anycast-rp rp-addr*

**no ipv6 pim anycast-rp** *anycast-rp rp-addr*

Syntax Description	
<i>anycast-rp</i>	Address for the Anycast-RP address.
<i>rp-addr</i>	Address of the RP in the Anycast-RP set.

Defaults	None
----------	------

Command Modes	Global configuration (config) VRF configuration (config-vrf)
---------------	---

Supported User Roles	network-admin vdc-admin
----------------------	----------------------------

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines**

Each command with the same Anycast-RP address forms an Anycast-RP set. The IP addresses of RPs are used for communication with RPs in the set.

This command requires the Enterprise Services license.

**Examples**

This example shows how to configure a PIM Anycast-RP peer:

```
switch(config)# ipv6 pim anycast-rp 2001:0db8:0:abcd::3 2001:0db8:0:abcd::31
```

This example shows how to remove a peer:

```
switch(config)# no ipv6 pim anycast-rp 2001:0db8:0:abcd::3 2001:0db8:0:abcd::31
```

Related Commands	Command	Description
	<b>show ipv6 pim rp</b>	Displays information about PIM6 RPs.

# ipv6 pim bidir-rp-limit

To configure the number of bidirectional (Bidir) RPs for use in IPv6 Protocol Independent Multicast (PIM6), use the **ipv6 pim bidir-rp-limit** command. To reset the number of RPs to the default, use the **no** form of this command.

**ipv6 pim bidir-rp-limit** *limit*

**no ipv6 pim bidir-rp-limit** *limit*

<b>Syntax Description</b>	<i>limit</i>	Limit for the number of Bidir RPs permitted in PIM6. The range is from 0 to 8. The default is 2.
---------------------------	--------------	--

**Defaults** The Bidir RP limit is 2.

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**SupportedUserRoles** network-admin  
vdc-admin

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(2)	This command was introduced.

**Usage Guidelines** Because the maximum ordinal count of designated forwarders (DFs) is 8, the PIM and IPv6 PIM RP limits should be no more than 8.

To display the Bidir RP limit configured, use this command line:

```
switch(config)# show running-config | include bidir
```

This command requires the Enterprise Services license.

**Examples** This example shows how to configure the number of Bidir RPs:

```
switch(config)# ipv6 pim bidir-rp-limit 6
```

This example shows how to reset the number of Bidir RPs to the default:

```
switch(config)# no ipv6 pim bidir-rp-limit 6
```

Related Commands	Command	Description
	<b>ip pim bidir-rp-limit</b>	Configures the number of Bidir RPs for PIM.
	<b>show running-config</b>	Displays information about the running-system configuration.

# ipv6 pim border

To configure an interface on an IPv6 Protocol Independent Multicast (PIM6) border, use the **ipv6 pim border** command. To remove an interface from a PIM6 border, use the **no** form of this command.

**ipv6 pim border**

**no ipv6 pim border**

---

**Syntax Description** This command has no arguments or keywords.

---

**Defaults** The interface is not on a PIM6 border.

---

**Command Modes** Interface configuration (config-if)

---

**SupportedUserRoles** network-admin  
vdc-admin

---

Command History	Release	Modification
	4.0(1)	This command was introduced.

---



---

**Usage Guidelines** This command requires the Enterprise Services license.

---

**Examples** This example shows how to configure an interface on a PIM6 border:

```
switch(config)# ipv6 pim border
```

This example shows how to remove an interface from a PIM6 border:

```
switch(config)# no ipv6 pim border
```

---

Related Commands	Command	Description
	<b>show ipv6 pim interface</b>	Displays information about PIM6-enabled interfaces.

---

# ipv6 pim bsr bsr-policy

To enable filtering of IPv6 Protocol Independent Multicast (PIM6) bootstrap router (BSR) messages by the BSR client routers based on a route-map policy, use the **ipv6 pim bsr bsr-policy** command. To disable filtering, use the **no** form of this command.

**ipv6 pim bsr bsr-policy** *policy-name*

**no ipv6 pim bsr bsr-policy** [*policy-name*]

<b>Syntax Description</b>	<i>policy-name</i> Route-map policy name.
---------------------------	---

<b>Defaults</b>	Disabled
-----------------	----------

<b>Command Modes</b>	Global configuration (config) VRF configuration (config-vrf)
----------------------	---

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	You can specify which source addresses to filter messages from with the <b>match ipv6 multicast</b> command in a route-map policy.  This command requires the Enterprise Services license.
-------------------------	--

<b>Examples</b>	This example shows how to enable filtering of BSR messages:  <pre>switch(config)# interface ethernet 2/2 switch(config-if)# ipv6 pim bsr bsr-policy my_bsr_policy</pre> This example shows how to disable filtering:  <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no ipv6 pim bsr bsr-policy</pre>
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ipv6 pim rp</b>	Displays information about PIM6 RPs.

# ipv6 pim bsr-candidate

To configure the router as an IPv6 Protocol Independent Multicast (PIM6) bootstrap router (BSR) candidate, use the **ipv6 pim bsr-candidate** command. To remove a router as a BSR candidate, use the **no** form of this command.

```
ipv6 pim [bsr] bsr-candidate if-type if-number [hash-len hash-len] [priority priority]
```

```
no ipv6 pim [bsr] bsr-candidate [if-type if-number] [hash-len hash-len] [priority priority]
```

Syntax Description	
<b>bsr</b>	(Optional) Specifies the BSR protocol RP-distribution configuration.
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>hash-len</b> <i>hash-len</i>	(Optional) Specifies the hash mask length used in BSR messages. The range is from 0 to 128. The default is 126.
<b>priority</b> <i>priority</i>	(Optional) Specifies the BSR priority used in BSR messages. The range is from 0 to 255. The default is 64.

**Defaults**

The hash mask length is 126.  
The priority is 64.

**Command Modes**

Global configuration (config)  
VRF configuration (config-vrf)

**Supported User Roles**

network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines**

This command requires the Enterprise Services license.

**Examples**

This example shows how to configure a router as a BSR candidate:

```
switch(config)# ipv6 pim bsr-candidate ethernet 2/2
```

This example shows how to remove a router as a BSR candidate:

```
switch(config)# no ipv6 pim bsr-candidate
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 pim rp</b>	Displays information about PIM6 RPs.

# ipv6 pim bsr forward

To listen to and forward IPv6 Protocol Independent Multicast (PIM6) bootstrap router (BSR) and Candidate-RP messages, use the **ipv6 pim bsr forward** command. To disable listening and forwarding, use the **no** form of this command.

**ipv6 pim bsr forward [listen]**

**no ipv6 pim bsr [forward [listen]]**

## Syntax Description

<b>listen</b>	(Optional) Specifies to listen to Bootstrap and Candidate-RP messages.
<b>forward</b>	Specifies to forward Bootstrap and Candidate-RP messages.

## Defaults

Disabled

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

A router configured as either a candidate RP or a candidate BSR will automatically listen to and forward all BSR protocol messages, unless an interface is configured with the domain border feature.

This command has the same functionality as the **ipv6 pim bsr listen** command.

This command requires the Enterprise Services license.

## Examples

This example shows how to listen to and forward BSR and Candidate-RP messages:

```
switch(config)# ipv6 pim bsr listen forward
```

This example shows how to disable listening and forwarding:

```
switch(config)# no ipv6 pim bsr listen forward
```



Related Commands	Command	Description
	<b>ipv6 pim bsr listen</b>	Enables listening to and forwarding of BSR messages.
	<b>show ipv6 pim rp</b>	Displays information about PIM6 RPs.

# ipv6 pim bsr listen

To listen to and forward IPv6 Protocol Independent Multicast (PIM6) bootstrap router (BSR) and Candidate-RP messages, use the **ipv6 pim bsr listen** command. To disable listening and forwarding, use the **no** form of this command.

**ipv6 pim bsr listen [forward]**

**no ipv6 pim bsr [listen [forward]]**

## Syntax Description

<b>listen</b>	(Optional) Specifies to listen to Bootstrap and Candidate-RP messages.
<b>forward</b>	(Optional) Specifies to forward Bootstrap and Candidate-RP messages.

## Defaults

Disabled

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

A router configured as either a candidate RP or a candidate BSR will automatically listen to and forward all BSR protocol messages, unless an interface is configured with the domain border feature.

This command has the same functionality as the **ipv6 pim bsr forward** command

This command requires the Enterprise Services license.

## Examples

This example shows how to listen to and forward BSR and Candidate-RP messages:

```
switch(config)# ipv6 pim bsr listen forward
```

This example shows how to disable listening and forwarding:

```
switch(config)# no ipv6 pim bsr listen forward
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>ipv6 pim bsr forward</b>	Enables listening to and forwarding of BSR messages.
<b>show ipv6 pim rp</b>	Displays information about PIM6 RPs.

# ipv6 pim bsr rp-candidate-policy

To filter IPv6 Protocol Independent Multicast (PIM6) bootstrap router (BSR) Candidate-RP messages that are based on a route-map policy, use the **ipv6 pim bsr rp-candidate-policy** command. To disable filtering, use the **no** form of this command.

```
ipv6 pim bsr rp-candidate-policy policy-name
```

```
no ipv6 pim bsr rp-candidate-policy [policy-name]
```

## Syntax Description

<i>policy-name</i>	Route-map policy name.
--------------------	------------------------

## Defaults

None

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

You can specify the RP and group addresses and whether the type is Bidir or ASM with the **match ipv6 multicast** command in a route-map policy.

This command requires the Enterprise Services license.

## Examples

This example shows how to filter Candidate-RP messages:

```
switch(config)# ipv6 pim bsr rp-candidate-policy my_bsr_rp_candidate_policy
```

This example shows how to disable message filtering:

```
switch(config)# no ipv6 pim bsr rp-candidate-policy
```

## Related Commands

Command	Description
<b>show ipv6 pim rp</b>	Displays information about PIM6 RPs.

# ipv6 pim dr-priority

To configure the designated router (DR) priority that is advertised in IPv6 Protocol Independent Multicast (PIM6) hello messages, use the **ipv6 pim dr-priority** command. To reset the DR priority to the default, use the **no** form of this command.

```

ipv6 pim dr-priority priority
no ipv6 pim dr-priority [priority]
    
```

<b>Syntax Description</b>	<i>priority</i> Priority value. The range is from 1 to 4294967295. The default is 1.
---------------------------	--

<b>Defaults</b>	The DR priority is 1.
-----------------	-----------------------

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

<b>Examples</b>	<p>This example shows how to configure the DR priority on an interface:</p> <pre> switch(config)# <b>interface ethernet 2/2</b> switch(config-if)# <b>ipv6 pim dr-priority 5</b>                     </pre> <p>This example shows how to reset the DR priority on an interface to the default:</p> <pre> switch(config)# <b>interface ethernet 2/2</b> switch(config-if)# <b>no ipv6 pim dr-priority</b>                     </pre>
-----------------	---

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ipv6 pim interface</b>	Displays information about PIM6-enabled interfaces.

# ipv6 pim event-history

To configure the size of the IPv6 Protocol Independent Multicast (PIM6) event history buffers, use the **ipv6 pim event-history** command. To revert to the default buffer size, use the **no** form of this command.

```
ipv6 pim event-history {assert-receive | bidir | cli | hello | join-prune | null-register | packet |
pim6-internal | rp | vrf} size buffer-size
```

```
no ipv6 pim event-history {assert-receive | bidir | cli | hello | join-prune | null-register | packet
| pim6-internal | rp | vrf} size buffer-size
```

Syntax	Description
<b>assert-receive</b>	Configures the assert receive event history buffer.
<b>bidir</b>	Configures the Bidr event history buffer.
<b>cli</b>	Configures the CLI event history buffer.
<b>hello</b>	Configures the hello event history buffer.
<b>join-prune</b>	Configures the join-prune event history buffer.
<b>null-register</b>	Configures the null register event history buffer.
<b>packet</b>	Configures the packet event history buffer.
<b>pim6-internal</b>	Configures the PIM internal event history buffer.
<b>rp</b>	Configures the rendezvous point (RP) event history buffer.
<b>vrf</b>	Configures the virtual routing and forwarding (VRF) event history buffer.
<b>size</b>	Specifies the size of the buffer to allocate.
<i>buffer-size</i>	Buffer size that is one of the following values: <b>disabled</b> , <b>large</b> , <b>medium</b> , or <b>small</b> . The default buffer size is <b>small</b> .

**Defaults** All history buffers are allocated as small.

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples**

This example shows how to configure the size of the PIM6 hello event history buffer:

```
switch(config)# ipv6 pim event-history hello size medium  
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ipv6 pim event-history</b>	Clears information in the IPv6 PIM event history buffers.
<b>show ipv6 pim event-history</b>	Displays information in the IPv6 PIM event history buffers.
<b>show running-config pim6</b>	Displays information about the running-system PIM6 configuration.

# ipv6 pim flush-routes

To remove routes when the IPv6 Protocol Independent Multicast (PIM6) process is restarted, use the **ipv6 pim flush-routes** command. To leave routes in place, use the **no** form of this command.

**ipv6 pim flush-routes**

**no ipv6 pim flush-routes**

**Syntax Description** This command has no arguments or keywords.

**Defaults** The routes are not flushed.

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** To display whether flush routes are configured, use this command line:

```
switch(config)# show running-config | include flush-routes
```

This command requires the Enterprise Services license.

**Examples** This example shows how to remove routes when the PIM process is restarted:

```
switch(config)# ipv6 pim flush-routes
```

This example shows how to leave routes in place when the PIM process is restarted:

```
switch(config)# no ipv6 pim flush-routes
```

Related Commands	Command	Description
	<b>show running-config</b>	Displays information about the running-system configuration.



# ipv6 pim hello-interval

To configure the IPv6 Protocol Independent Multicast (PIM6) hello-message interval on an interface, use the **ipv6 pim hello-interval** command. To reset the hello interval to the default, use the **no** form of this command.

```

ipv6 pim hello-interval interval

no ipv6 pim hello-interval [interval]
    
```

<b>Syntax Description</b>	<i>interval</i> Interval in milliseconds. The range is from 1 to 4294967295. The default is 30000.
---------------------------	--

<b>Defaults</b>	The PIM6 hello interval is 30,000 milliseconds.
-----------------	---

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>Supported User Roles</b>	network-admin vdc-admin
-----------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

**Examples** This example shows how to configure the PIM6 hello-message interval on an interface:

```

switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 pim hello-interval 20000
    
```

This example shows how to reset the PIM6 hello message-interval on an interface to the default:

```

switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 pim hello-interval
    
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ipv6 pim interface</b>	Displays information about PIM6-enabled interfaces.

# ipv6 pim jp-policy

To filter IPv6 Protocol Independent Multicast (PIM6) join-prune messages that are based on a route-map policy, use the **ipv6 pim jp-policy** command. To disable filtering, use the **no** form of this command.

```
ipv6 pim jp-policy policy-name [in | out]
```

```
no ipv6 pim jp-policy [policy-name]
```

## Syntax Description

<i>policy-name</i>	Route-map policy name.
<b>in</b>	Specifies that the system applies a filter only for incoming messages.
<b>out</b>	Specifies that the system applies a filter only for outgoing messages.

## Defaults

Disabled; no filter is applied for either incoming or outgoing messages.

## Command Modes

Interface configuration (config-if)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.
4.2(3)	The optional <b>in</b> and <b>out</b> parameters were added.

## Usage Guidelines

Beginning with Cisco NX-OS Release 4.2(3), the **ipv6 pim jp-policy** command filters messages in both incoming and outgoing directions. To specify filtering only incoming messages, use the optional **in** keyword; to specify filtering only outgoing messages, use the optional **out** keyword. When you enter the command with no arguments, that is no explicit direction, the system rejects further configurations if given with explicit direction.

You can specify group, group and source, or group and RP addresses to filter messages with the **match ipv6 multicast** command.

This command requires the Enterprise Services license.

## Examples

This example shows how to filter PIM join-prune messages:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 pim jp-policy my_jp_policy
```

This example shows how to disable filtering:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 pim jp-policy
```

Related Commands	Command	Description
	show ipv6 pim interface	Displays information about PIM6-enabled interfaces.

# ipv6 pim log-neighbor-changes

To generate syslog messages that list the IPv6 Protocol Independent Multicast (PIM6) neighbor state changes, use the **ipv6 pim log-neighbor-changes** command. To disable messages, use the **no** form of this command.

**ipv6 pim log-neighbor-changes**

**no ipv6 pim log-neighbor-changes**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Global configuration (config)  
VRF configuration (config-vrf)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to generate syslog message that list the PIM6 neighbor state changes:

```
switch(config)# ipv6 pim log-neighbor-changes
```

This example shows how to disable logging:

```
switch(config)# no ipv6 pim log-neighbor-changes
```

Related Commands	Command	Description
	<b>logging level ipv6 pim</b>	Configures logging level of PIM6 messages.

# ipv6 pim neighbor-policy

To configure a route-map policy that determines which IPv6 Protocol Independent Multicast (PIM6) neighbors should become adjacent, use the **ipv6 pim neighbor-policy** command. To reset to the default, use the **no** form of this command.

**ipv6 pim neighbor-policy** *policy-name*

**no ipv6 pim neighbor-policy** [*policy-name*]

<b>Syntax Description</b>	<i>policy-name</i> Route-map policy name.
---------------------------	---

<b>Defaults</b>	Forms adjacency with all neighbors.
-----------------	-------------------------------------

<b>Command Modes</b>	Interface configuration (config-if)
----------------------	-------------------------------------

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	<p>You can use the <b>match ipv6 address</b> command in a route-map policy to specify which groups to become adjacent to.</p> <p>This command requires the Enterprise Services license.</p>
-------------------------	---

<b>Examples</b>	<p>This example shows how to configure a policy that determines which PIM6 neighbors should become adjacent:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# ipv6 pim neighbor-policy</pre> <p>This example shows how to reset to the default:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no ipv6 pim neighbor-policy</pre>
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ipv6 pim interface</b>	Displays information about PIM6-enabled interfaces.

# ipv6 pim register-policy

To filter IPv6 Protocol Independent Multicast (PIM6) Register messages that are based on a route-map policy, use the **ipv6 pim register-policy** command. To disable message filtering, use the **no** form of this command.

```
ipv6 pim register-policy policy-name
```

```
no ipv6 pim register-policy [policy-name]
```

## Syntax Description

<i>policy-name</i>	Route-map policy name.
--------------------	------------------------

## Defaults

Disabled

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

You can use the **match ipv6 multicast** command in a route-map policy to specify the group or group and source addresses whose register messages that should be filtered.

To display the configured register policy, use this command line:

```
switch(config)# show running-config | include register-policy
```

This command requires the Enterprise Services license.

## Examples

This example shows how to filter PIM6 Register messages:

```
switch(config)# ipv6 pim register-policy my_register_policy
```

This example shows how to disable message filtering:

```
switch(config)# no ipv6 pim register-policy
```

## Related Commands

Command	Description
<b>show running-config</b>	Displays information about the running-system configuration.

# ipv6 pim register-rate-limit

To configure a rate limit for IPv6 Protocol Independent Multicast (PIM6) data registers, use the **ipv6 pim register-rate-limit** command. To remove a rate limit, use the **no** form of this command.

**ipv6 pim register-rate-limit** *rate*

**no ipv6 pim register-rate-limit** [*rate*]

<b>Syntax Description</b>	<i>rate</i>	Rate in packets per second. The range is from 1 to 65,535.
---------------------------	-------------	--

<b>Defaults</b>	None	
-----------------	------	--

<b>Command Modes</b>	Global configuration (config)	
----------------------	-------------------------------	--

<b>SupportedUserRoles</b>	network-admin vdc-admin	
---------------------------	----------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(3)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.	
-------------------------	--	--

<b>Examples</b>	This example shows how to configure a rate limit for PIM6 data registers:	
	<code>switch(config)# <b>ipv6 pim register-rate-limit 1000</b></code>	
	This example shows how to remove a rate limit:	
	<code>switch(config)# <b>no ipv6 pim register-rate-limit</b></code>	

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
		<code><b>show ipv6 pim interface</b></code>

# ipv6 pim rp-address

To configure an IPv6 Protocol Independent Multicast (PIM6) static route processor (RP) address for a multicast group range, use the **ipv6 pim rp-address** command. To remove a static RP address, use the **no** form of this command.

```
ipv6 pim rp-address rp-address [group-list prefix | route-map policy-name] [bidir]
```

```
no ipv6 pim rp-address rp-address [group-list prefix | route-map policy-name] [bidir]
```

## Syntax Description

<i>rp-address</i>	IPv6 address of the router, which is the RP for the group range.
<b>group-list</b> <i>prefix</i>	(Optional) Specifies a group range for a static RP.
<b>route-map</b> <i>policy-name</i>	Specifies the route-map policy name.
<b>bidir</b>	(Optional) Specifies to handle group ranges in PIM6 bidirectional (Bidir) mode.

## Defaults

The group range is treated in ASM mode.

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.
4.2(1)	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .

## Usage Guidelines

The **match ipv6 multicast** command is the only **match** command that is evaluated in the route map. You can specify the group prefix to filter messages with the **match ipv6 multicast** command.

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a PIM6 static RP address for a group range:

```
switch(config)# ipv6 pim rp-address 2001:0db8:0:abcd::1 group-list ff1e:abcd:def1::0/96
```

This example shows how to remove a static RP address:

```
switch(config)# no ipv6 pim rp-address 2001:0db8:0:abcd::1
```



**Related Commands**

<b>Command</b>	<b>Description</b>
<code>show ipv6 pim rp</code>	Displays information about PIM6 RPs.

# ipv6 pim rp-candidate

To configure the router as an IPv6 Protocol Independent Multicast (PIM6) bootstrap router (BSR) route processor (RP) candidate, use the **ipv6 pim rp-candidate** command. To remove the router as an RP candidate, use the **no** form of this command.

**ipv6 pim [bsr] rp-candidate** *if-type if-number* **group-list** *prefix* [**priority** *priority*] [**interval** *interval*] [**bidir**]

**no ipv6 pim [bsr] rp-candidate** [*if-type if-number*] [**group-list** *prefix*] [**priority** *priority*] [**interval** *interval*] [**bidir**]

## Syntax Description

<b>bsr</b>	(Optional) Specifies the BSR protocol RP-distribution configuration.
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>group-list</b> <i>prefix</i>	Specifies a group range handled by the RP.
<b>priority</b> <i>priority</i>	(Optional) Specifies the RP priority used in Candidate-RP messages. The range is from 0 to 65,535. The default is 192.
<b>interval</b> <i>interval</i>	(Optional) Specifies the BSR message transmission interval in seconds. The range is from 1 to 65,535. The default is 60.
<b>bidir</b>	(Optional) Specifies the group range advertised in PIM6 bidirectional (Bidir) mode.

## Defaults

The RP priority is 192.  
The BSR message interval is 60 seconds.

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

We recommend that you configure the candidate RP interval to a minimum of 15 seconds.  
This command requires the Enterprise Services license.

---

**Examples**

This example shows how to configure the router as a PIM6 BSR RP candidate:

```
switch(config)# ipv6 pim rp-candidate e 2/11 group-list ff1e:abcd:def1::0/24
```

This example shows how to remove the router as an RP candidate:

```
switch(config)# no ipv6 pim rp-candidate
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 pim rp</b>	Displays information about PIM6 RPs.

---

# ipv6 pim sparse-mode

To enable IPv6 Protocol Independent Multicast (PIM6) sparse mode on an interface, use the **ipv6 pim sparse-mode** command. To disable PIM6 on an interface, use the **no** form of this command.

**ipv6 pim sparse-mode**

**no ipv6 pim [sparse-mode]**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Interface configuration (config-if)

**Supported User Roles** network-admin  
vdc-admin

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to enable PIM6 sparse mode on an interface:

```
switch(config)# interface ethernet 2/2
switch(config-if)# ipv6 pim sparse-mode
```

This example shows how to disable PIM6 on an interface:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no ipv6 pim
```

Related Commands	Command	Description
	<b>show ipv6 pim interface</b>	Displays information about PIM6-enabled interfaces.

# ipv6 pim ssm range

To configure IPv6 Protocol Independent Multicast (PIM6) group ranges for Source Specific Multicast (SSM), use the **ipv6 pim ssm range** command. To reset the SSM group range to the default, use the **no** form of this command with the **none** keyword.

```
ipv6 pim ssm {range [groups | none] | route-map policy-name}
```

```
no ipv6 pim ssm {range [groups | none] | route-map policy-name}
```

## Syntax Description

<i>groups</i>	List of up to four group range prefixes.
<b>none</b>	Removes all group ranges.
<b>route-map</b> <i>policy-name</i>	Specifies the route-map policy name.

## Defaults

The SSM range is FF3x/96.

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(2)	Keyword <b>none</b> was added.
4.2(1)	Added the keyword <b>route-map</b> and argument <i>policy-name</i> .

## Usage Guidelines

The **match ipv6 multicast** command is the only **match** command that is evaluated in the route map. You can specify the group prefix to filter messages with the **match ipv6 multicast** command.

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a PIM6 group range for SSM:

```
switch(config)# ipv6 pim ssm range FF30::0/32
```

This example shows how to reset the group range to the default:

```
switch(config)# no ipv6 pim ssm range none
```

This example shows how to remove all group ranges:

```
switch(config)# ipv6 pim ssm range none
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 pim group-range</b>	Displays information about PIM6 group ranges.

# ipv6 pim state-limit

To configure a maximum number of IPv6 Protocol Independent Multicast (PIM6) state entries in the current virtual routing and forwarding (VRF) instance, use the **ipv6 pim state-limit** command. To remove the limit on state entries, use the **no** form of this command.

**ipv6 pim state-limit** *max-states* [**reserved** *policy-name* *max-reserved*]

**no ipv6 pim state-limit** [*max-states* [**reserved** *policy-name* *max-reserved*]]

## Syntax Description

<i>max-states</i>	Maximum number of (*, G) and (S, G) entries allowed in this VRF. The range is from 1 to 4294967295. The default is no limit.
<b>reserved</b>	(Optional) Specifies that a number of state entries are to be reserved for the routes specified in a policy map.
<i>policy-name</i>	(Optional) Route-map policy name.
<i>max-reserved</i>	(Optional) Maximum reserved (*, G) and (S, G) entries allowed in this VRF. Must be less than or equal to the maximum states allowed.

## Defaults

None

## Command Modes

Global configuration (config)  
VRF configuration (config-vrf)

## Supported User Roles

network-admin  
vdc-admin

## Command History

Release	Modification
4.0(1)	This command was introduced.

## Usage Guidelines

To display commands where state limits are configured, use this command line:

```
switch(config)# show running-config | include state-limit
```

This command requires the Enterprise Services license.

## Examples

This example shows how to configure a state entry limit with a number of state entries reserved for routes in a policy map:

```
switch(config)# ipv6 pim state-limit 100000 reserved my_reserved_policy 40000
```

This example shows how to remove the limits on state entries:

```
switch(config)# no ipv6 pim state-limit
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show running-config</b>	Displays information about the running-system configuration.

---



# ipv6 pim use-shared-tree-only

To create IPv6 Protocol Independent Multicast (PIM6) (\*, G) state only (where no source state is created), use the **ipv6 pim use-shared-tree-only** command. To remove the creation of shared tree state only, use the **no** form of this command.

**ipv6 pim use-shared-tree-only group-list** *policy-name*

**no ipv6 pim use-shared-tree-only** [**group-list** *policy-name*]

<b>Syntax Description</b>	<i>policy-name</i> Route-map policy name that defines the group prefixes where this feature is applied.
---------------------------	---

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Global configuration (config) VRF configuration (config-vrf)
----------------------	---

<b>SupportedUserRoles</b>	network-admin vdc-admin
---------------------------	----------------------------

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.1(2)	Keyword <b>group-list</b> was added and a route-map policy name is used to define groups.

<b>Usage Guidelines</b>	<p>You can use the <b>match ipv6 multicast</b> command in a route-map policy to specify the groups where shared trees should be enforced.</p> <p>This command requires the Enterprise Services license.</p>
-------------------------	---

<b>Examples</b>	<p>This example shows how to create the PIM6 (*, G) state only for the group prefixes defined in <i>my_group_policy</i>:</p>
-----------------	--

```
switch(config)# ipv6 pim use-shared-tree-only group-list my_group_policy
```

This example shows how to remove the creation of the (\*, G) state only:

```
switch(config)# no ipv6 pim use-shared-tree-only
```

Related Commands	Command	Description
	<b>show ipv6 pim rp</b>	Displays information about PIM6 RPs.

# ipv6 routing multicast event-history

To configure the size of the IPv6 Multicast Routing Information Base (M6RIB) event history buffers, use the **ipv6 routing multicast event-history** command. To revert to the default buffer size, use the **no** form of this command.

```
ipv6 routing multicast event-history { cli | mfdm-debug | mfdm-events | mfdm-stats | rib | vrf }
    size buffer-size
```

```
no ipv6 routing multicast event-history { cli | mfdm-debug | mfdm-stats | rib | vrf } size
    buffer-size
```

## Syntax Description

<b>cli</b>	Configures the CLI event history buffer.
<b>mfdm-debug</b>	Configures the multicast FIB distribution (MFDM) event history buffer.
<b>mfdm-events</b>	Configures the multicast FIB distribution (MFDM) non-periodic events event history buffer.
<b>mfdm-stats</b>	Configures the MFDM sum event history buffer.
<b>rib</b>	Configures the RIB event history buffer.
<b>vrf</b>	Configures the virtual routing and forwarding (VRF) event history buffer.
<b>size</b>	Specifies the size of the buffer to allocate.
<i>buffer-size</i>	Buffer size is one of the following values: <b>disabled</b> , <b>large</b> , <b>medium</b> , or <b>small</b> . The default buffer size is <b>small</b> .

## Defaults

All history buffers are allocated as small.

## Command Modes

Any command mode

## Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

## Command History

Release	Modification
4.1(2)	This command was introduced.
4.2(1)	Added the keyword <b>mfdm-events</b> . Changed the keyword <b>mfdm</b> to <b>mfdm-debug</b> .

## Usage Guidelines

To display configured buffer sizes, use this command line:

```
switch(config)# show running-config | include "ipv6 routing"
```

This command does not require a license.

**Examples**

This example shows how to configure the size of the M6RIB MFDM event history buffer:

```
switch(config)# ipv6 routing multicast event-history mfdm size large
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ipv6 routing multicast event-history</b>	Clears information in the IPv6 M6RIB event history buffers.
<b>show routing ipv6 multicast event-history</b>	Displays information in the IPv6 M6RIB event history buffers.
<b>show running-config</b>	Displays information about the running-system configuration.

# ipv6 routing multicast holddown

To configure the IPv6 multicast routing initial holddown period, use the **ipv6 routing multicast holddown** command. To revert to the default holddown period, use the **no** form of this command.

**ipv6 routing multicast holddown** *holddown-period*

**no ipv6 routing multicast holddown** *holddown-period*

<b>Syntax Description</b>	<i>holddown-period</i>	Initial route holddown period in seconds. The range is from 90 to 210. Specify 0 to disable the holddown period. The default is 210.
---------------------------	------------------------	--

**Defaults** The holddown period is 210 seconds.

**Command Modes** Global configuration (config)

**Supported User Roles** network-admin  
vdc-admin

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.2(1)	This command was introduced.

**Usage Guidelines** To display the holddown period configuration, use this command line:

```
switch(config)# show running-config | include "ipv6 routing multicast holddown"
```

This command does not require a license.

**Examples** This example shows how to configure the routing holddown period:

```
switch(config)# ipv6 routing multicast holddown 100
switch(config)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show running-config</b>	Displays information about the running-system configuration.

# ipv6 routing multicast software-replicate

To enable software replication of IPv6 Protocol Independent Multicast (PIM) Any Source Multicast (ASM) packets that are leaked to the software for state creation, use the **ipv6 routing multicast software-replicate** command. To reset to the default, use the **no** form of this command.

**ipv6 routing multicast software-replicate**

**no ipv6 routing multicast software-replicate**

**Syntax Description** This command has no arguments or keywords.

**Defaults** No software replication.

**Command Modes** Global configuration (config)

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	4.2(3)	This command was introduced.

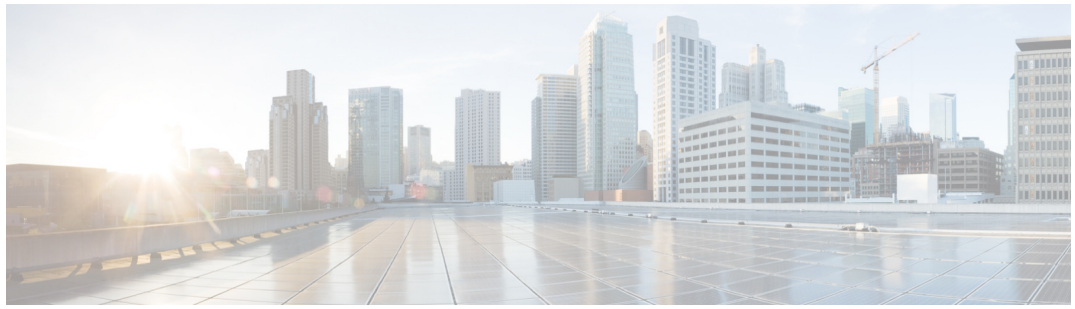
**Usage Guidelines** By default, these packets are used by the software only for (S,G) state creation and then dropped.  
  
This command does not require a license.

**Examples** This example shows how to enable software replication of IPv6 PIM ASM packets:

```
switch(config)# ipv6 routing multicast software-replicate
switch(config)#
```

Related Commands	Command	Description
	<b>show running-config</b>	Displays information about the running-system configuration.





# I Commands

---

This chapter describes the Cisco NX-OS multicast routing commands that begin with L.

## layer-2 multicast lookup mac (Global configuration mode)

To enable lookup type, use the **layer-2 multicast lookup mac** command. To disable this command use the **no** form of this command.

**layer-2 multicast lookup mac**

**no layer-2 multicast lookup mac**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Global configuration mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	5.2(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to enable lookup type:

```
switch(config)# layer-2 multicast lookup mac
switch(config)#
```

This example shows how to disable lookup type:

```
switch(config)# no layer-2 multicast lookup mac
switch(config)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping lookup-mode</b>	Displays the IGMP snooping lookup mode information.



*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## layer-2 multicast lookup mac (VLAN configuration mode)

To enable lookup type, use the **layer-2 multicast lookup mac** command. To disable this command use the **no** form of this command.

**layer-2 multicast lookup mac**

**no layer-2 multicast lookup mac**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** VLAN configuration mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	5.2(1)	This command was introduced.

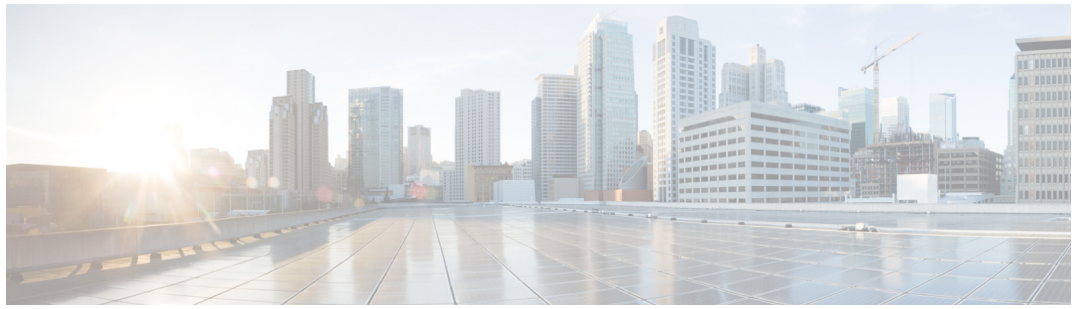
**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to enable lookup type:

```
switch(config-vlan)# layer-2 multicast lookup mac
switch(config)#
```

**Related Commands** **show ip igmp snooping** Displays the IGMP snooping lookup mode information.  
**lookup-mode**





# M Commands

---

This chapter describes the Cisco NX-OS multicast routing commands that begin with M.

# mac address-table multicast

To configure an outgoing interface statically for a multicast MAC address, use the **mac address-table multicast** command.

**mac address-table multicast** *multicast-mac-address* **vlan** *vlan-id* **interface** *interface-name*

## Syntax Description

<i>multicast-mac-address</i>	Specifies multicast MAC address.
<b>vlan</b>	Specifies the VLAN.
<i>vlan-id</i>	VLAN ID. The range is from 1 to 3967 and from 4048 to 4093.
<b>interface</b>	Specifies the interface.
<i>interface-name</i>	Interface name.

## Defaults

None

## Command Modes

Any command mode

## Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

## Command History

Release	Modification
5.2(1)	This command was introduced.

## Usage Guidelines

This command does not require a license.

## Examples

This example shows how to configure the specified outgoing interface statically for a multicast MAC address:

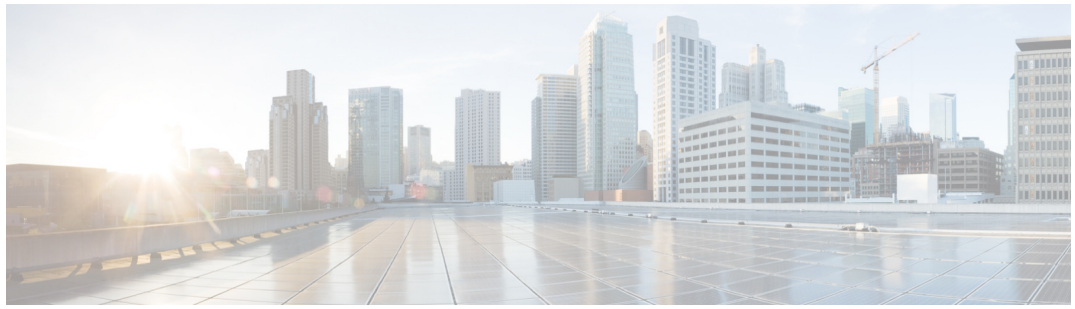
```
switch(config)# mac address-table multicast 01:00:5f:00:00:00 vlan 5 interface ethernet
2/5
switch(config)#
```

## Related Commands

Command	Description
<b>show ip igmp snooping</b>	Displays the IGMP snooping static MAC information.
<b>mac-oif</b>	

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***





## R Commands

---

This chapter describes the Cisco NX-OS multicast routing commands that begin with R.

# restart igmp

To restart the IGMP process, use the **restart igmp** command.

**restart igmp**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to restart the process:

```
switch(config)# restart igmp
```

Related Commands	Command	Description
	<b>ip igmp flush-routes</b>	Enables flushing routes when the IGMP process is restarted.



***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

## restart msdp

To restart the Multicast Source Discovery Protocol (MSDP) process, use the **restart msdp** command.

```
restart msdp
```

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to restart the MSDP process:

```
switch(config)# restart msdp
```

Related Commands	Command	Description
	<b>ip msdp flush-routes</b>	Enables flushing routes when the MSDP process is restarted.

# restart pim

To restart the IPv4 Protocol Independent Multicast (PIM) process, use the **restart pim** command.

## restart pim

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to restart the PIM process:

```
switch(config)# restart pim
```

Related Commands	Command	Description
	ip pim flush-routes	Enables flushing routes when the PIM process is restarted.

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## restart pim6

To restart the IPv6 Protocol Independent Multicast (PIM6) process, use the **restart pim6** command.

**restart pim6**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

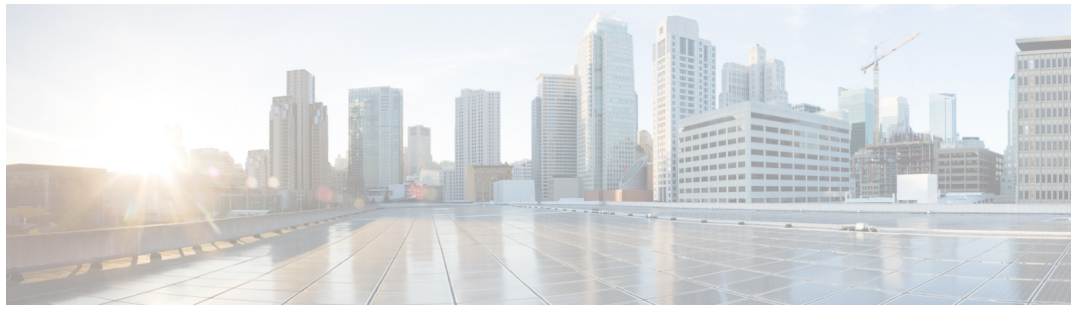
**Examples** This example shows how to restart the PIM6 process:

```
switch(config)# restart pim6
```

Related Commands	Command	Description
	<b>ipv6 pim flush-routes</b>	Enables flushing routes when the PIM6 process is restarted.

---

■ restart pim6



# Show Commands

---

This chapter describes the Cisco NX-OS multicast routing **show** commands.

# show forwarding distribution ip igmp snooping

To display information about Layer 2 IGMP snooping multicast FIB distribution, use the **show forwarding distribution ip igmp snooping** command.

```
show forwarding distribution ip igmp snooping [vlan vlan-id [group group-addr [source
source-addr]]]
```

Syntax Description	
<b>vlan</b> <i>vlan-id</i>	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
<b>group</b> <i>group-addr</i>	(Optional) Specifies a group address.
<b>source</b> <i>source-addr</i>	(Optional) Specifies a source address.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information about Layer 2 IGMP snooping multicast FIB distribution:

```
switch(config)# show forwarding distribution ip igmp snooping
Vlan: 1, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0

Vlan: 3, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
Vlan: 13, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0

Vlan: 200, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0

Vlan: 1001, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
```

# show forwarding distribution ipv6 multicast route

To display information about the multicast IPv6 FIB routes, use the **show forwarding distribution ipv6 multicast route** command.

```
show forwarding distribution ipv6 multicast route [table table_id | vrf vrf-name] [group [source]
| summary]
```

Syntax	Description
<b>table</b> <i>table_id</i>	(Optional) Specifies a table ID. The range is from 0x0 to 0xffffffff.
<b>vrf</b> <i>vrf-name</i>	(Optional) Specifies a virtual routing and forwarding (VRF) name.
<b>group</b>	(Optional) IPv6 group address.
<b>source</b>	(Optional) IPv6 source address.
<b>summary</b>	(Optional) Specifies route counts.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information about the multicast IPv6 FIB routes:

```
switch(config)# show forwarding distribution ipv6 multicast route
```

```
IPv6 Multicast Routing table table-id:0x80000001
Total number of groups: 5
Legend:
  C = Control Route
  D = Drop Route
  G = Local Group (directly connected receivers)
  O = Drop on RPF Fail
  P = Punt to supervisor

(*, ff00::/8), RPF Interface: NULL, flags: D
```



***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
Received Packets: 0 Bytes: 0
Number of Outgoing Interfaces: 0
Null Outgoing Interface List

(*, ff01::/16), RPF Interface: NULL, flags: D
Received Packets: 0 Bytes: 0
Number of Outgoing Interfaces: 0
Null Outgoing Interface List

(*, ff02::/16), RPF Interface: NULL, flags: CP
Received Packets: 0 Bytes: 0
Number of Outgoing Interfaces: 0
Null Outgoing Interface List

(*, ff11::/16), RPF Interface: NULL, flags: D
Received Packets: 0 Bytes: 0
Number of Outgoing Interfaces: 0
Null Outgoing Interface List

(*, ff12::/16), RPF Interface: NULL, flags: CP
Received Packets: 0 Bytes: 0
Number of Outgoing Interfaces: 0
Null Outgoing Interface List
switch#
```

# show forwarding distribution l2 multicast vlan

To display platform independent database in Layer 2 multicast, use the **show forwarding distribution l2 multicast vlan** command.

```
show forwarding distribution l2 multicast [vlan vlan-id [{group grpaddr [source srcaddr]} |
destination-mac dmac]]
```

Syntax Description	
<i>vlan-id</i>	(Optional) VLAN ID. The range is from 1 to 3967 and from 4048 to 4093.
<b>group</b>	(Optional) Displays the group specific information.
<i>grpaddr</i>	(Optional) Group address.
<b>source</b>	(Optional) Displays the (G,S) specific information.
<i>srcaddr</i>	(Optional) Source address.
<b>destination-mac</b>	(Optional) Displays the destination MAC specific information
<i>dmac</i>	(Optional) Destination MAC address.

**Defaults** None

**Command Modes** Global configuration mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	5.2(1)	This command was introduced.

**Usage Guidelines** If the VLAN is configured for MAC based lookup, then the display will show MAC entries, else it will show IP entries.

User can explicitly display an IP (BD,S,G) entry or MAC entry by specifying Group address or MAC address. If the lookup mode is IP and the user specifies MAC, show will return null and prints a message “Snooping lookups in group IP mode”. Similarly If the user specifies MAC and the lookup is IP, show command will return null and prints “Snooping lookups in group MAC mode”

This command does not require a license.

**Examples** This example shows how to display platform independent database information for a specific VLAN:

```
switch# show forwarding distribution l2 multicast vlan 1
Vlan: 1, Group: 0.0.0.0, Source: 0.0.0.0
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
Outgoing Interface List Index: 65535
Reference Count: 1
Platform Index: 0x0
Number of Outgoing Interfaces: 0
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show forwarding distribution multicast</b>	Displays the information about multicast distribution messages.

# show forwarding distribution multicast

To display information about multicast distribution messages, use the **show forwarding distribution multicast** command.

**show forwarding distribution multicast [messages]**

Syntax	Description
<b>messages</b>	(Optional) Displays message information.

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin network-operator vdc-admin vdc-operator
----------------------	--

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines	This command does not require a license.
------------------	--

Examples	This example shows how to display information about multicast distribution messages:
----------	--

```
switch(config)# show forwarding distribution multicast
Number of Multicast FIB Processes Active: 2
Slot      FIB State
  2        ACTIVE
  7        ACTIVE
switch#
```

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show forwarding distribution multicast client

To display information about the multicast FIB distribution client, use the **show forwarding distribution multicast client** command.

**show forwarding distribution multicast client**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information about the multicast distribution client:

```
switch(config)# show forwarding distribution multicast client

Number of Clients Registered: 3
Client-name  Client-id  Shared Memory Name
m6rib        1           m6rib-mfdm
mrrib        2           mrrib-mfdm
igmp         3           N/A
switch#
```

Related Commands	Command	Description
	<b>show forwarding distribution multicast</b>	Displays the information about multicast distribution messages.

# show forwarding distribution multicast outgoing-interface-list

To display information about the multicast outgoing interface (OIF) list, use the **show forwarding distribution multicast outgoing-interface-list** command.

```
show forwarding distribution multicast outgoing-interface-list {L2 | L3} [index]
```

Syntax Description		
	<b>L2</b>	Specifies the Layer 2 OIF list.
	<b>L3</b>	Specifies the Layer 3 OIF list.
	<i>index</i>	(Optional) OIF list index.

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin network-operator vdc-admin vdc-operator
----------------------	--

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines	This command does not require a license.
------------------	--

Examples	<p>This example shows how to display information about the multicast OIF list for Layer 3:</p> <pre>switch(config)# show forwarding distribution multicast outgoing-interface-list L3    Outgoing Interface List Index: 1   Reference Count: 1   Platform Index: 0x7ffe   Number of Outgoing Interfaces: 1     mgmt0 switch#</pre>
----------	--

Related Commands	Command	Description
	<b>show forwarding distribution multicast</b>	Displays the information about multicast distribution messages.

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show forwarding distribution multicast route

To display information about the multicast FIB distribution routes, use the **show forwarding distribution multicast route** command.

```
show forwarding distribution [ip | ipv4] multicast route [table id | vrf vrf_name] [[group
  {group-addr [mask] | group-prefix}] [source {source-addr [source-mask] | source-prefix}] |
  summary]
```

Syntax Description	
<b>ip</b>	(Optional) Specifies IPV4 information.
<b>ipv4</b>	(Optional) Specifies IPV4 information.
<b>table id</b>	(Optional) Specifies the multicast routing table ID. The range is from 0 to 2147483647.
<b>vrf vrf_name</b>	(Optional) Specifies a virtual routing and forwarding (VRF) name.
<b>group</b>	(Optional) Specifies IPv4 multicast group.
<i>group-addr</i>	IPv4 multicast group address.
<i>mask</i>	(Optional) Mask for the group address.
<i>group-prefix</i>	(Optional) IPv4 multicast group prefix.
<b>source</b>	(Optional) Specifies IPv4 multicast source.
<i>source-addr</i>	IPv4 source address.
<i>source-mask</i>	(Optional) Mask for the group address.
<i>source-prefix</i>	(Optional) IPv4 multicast source prefix.
<b>summary</b>	(Optional) Displays the route counts.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples**

This example shows how to display information about all the multicast FIB distribution routes:

```
switch(config)# show forwarding distribution multicast route
IPv4 Multicast Routing Table for table-id: 1
Total number of groups: 4
Legend:
  C = Control Route
  D = Drop Route
  G = Local Group (directly connected receivers)
  O = Drop on RPF Fail
  P = Punt to supervisor

(*, 224.0.0.0/4), RPF Interface: NULL, flags: D
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, 224.0.0.0/24), RPF Interface: NULL, flags: CP
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, 224.0.1.39/32), RPF Interface: NULL, flags: CP
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, 224.0.1.40/32), RPF Interface: NULL, flags: CP
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List
switch#
```

**Related Commands**

Command	Description
<b>show forwarding distribution multicast</b>	Displays the information about multicast distribution messages.



[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show forwarding ipv6 multicast route

To display information about the IPv6 multicast routes, use the **show forwarding ipv6 multicast route** command.

```
show forwarding [vrf {vrf-name | all}] ipv6 multicast route [[group {group | group-addr} |
source {source | source-addr} | module num | vrf {vrf-name | all}] | summary [module num |
vrf {vrf-name | all}]]
```

Syntax Description		
<b>vrf</b>	(Optional) Displays routes for a specific virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	VRF name.	
<b>all</b>	Displays information for all VRFs.	
<b>group</b>	(Optional) Specifies multicast IPv6 group address.	
<i>group</i>	Multicast IPv6 group address with prefix.	
<i>group-addr</i>	Multicast IPv6 group address.	
<b>source</b>	Specifies multicast IPv6 source address.	
<i>source</i>	Multicast IPv6 source address with prefix.	
<i>source-addr</i>	Multicast IPv6 source address.	
<b>module num</b>	(Optional) Specifies module number.	
<b>summary</b>	Displays route counts.	

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.1(3)	Added the <i>group-addr</i> and <i>source-addr</i> arguments.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information about the IPv6 multicast routes:

```
switch(config)# show forwarding ipv6 multicast route

IPv6 Multicast Routing table table-id:0x80000001
Total number of groups: 0
Legend:
  C = Control Route
  D = Drop Route
  G = Local Group (directly connected receivers)
  O = Drop on RPF failure
  P = Punt to Supervisor

(*, ff00::/8), RPF Interface: NULL, flags: DW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff01::/16), RPF Interface: NULL, flags: DW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff02::/16), RPF Interface: NULL, flags: CPW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff11::/16), RPF Interface: NULL, flags: DW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff12::/16), RPF Interface: NULL, flags: CPW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List
switch(config)#
```

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show forwarding l2 multicast vlan

To display platform independent database in Layer 2 multicast with MFDM information, use the **show forwarding distribution l2 multicast vlan** command.

```
show forwarding l2 multicast [vlan vlan-id [{source source-ip group group-ip}] |
destination-mac dmac] [module number]
```

Syntax Description	
<i>vlan-id</i>	(Optional) VLAN ID. The range is from 1 to 3967 and from 4048 to 4093.
<b>group</b>	(Optional) Displays the group specific information.
<i>grpaddr</i>	(Optional) Group address.
<b>source</b>	(Optional) Displays the (G,S) specific information.
<i>srcaddr</i>	(Optional) Source address.
<b>destination-mac</b>	(Optional) Displays the destination MAC specific information
<i>dmac</i>	(Optional) Destination MAC address.
<b>module</b>	(Optional) Module
<i>number</i>	(Optional) Slot number. The range is from 0 to 18.

**Defaults** None

**Command Modes** Global configuration mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	5.2(1)	This command was introduced.

**Usage Guidelines** This command is same as **show forwarding distribution l2 multicast vlan** command but it displays MFDM information. If the VLAN is configured for MAC based lookup, then the display will show MAC entries, else it will show IP entries.

User can explicitly display an IP (BD,S,G) entry or MAC entry by specifying Group address or MAC address. If the lookup mode is IP and the user specifies MAC, show will return null and prints a message “Snooping lookups in group IP mode”. Similarly If the user specifies MAC and the lookup is IP, show command will return null and prints “Snooping lookups in group MAC mode”

This command does not require a license.

---

**Examples**

This example shows how to display platform independent database information for a specific VLAN with MFDM information:

```
switch# show forwarding l2 multicast vlan 1
Vlan: 1, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 1
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
```

---

**Related Commands**

Command	Description
<b>show forwarding distribution multicast</b>	Displays the information about multicast distribution messages.

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

## show forwarding multicast outgoing-interface-list

To display information about the multicast outgoing interface (OIF) list, use the **show forwarding multicast outgoing-interface-list** command.

**show forwarding multicast outgoing-interface-list** [*module num*] [*index*]

Syntax Description	
<b>module num</b>	(Optional) Specifies the module number.
<b>index</b>	(Optional) OIF list index.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information about the multicast outgoing interface (OIF) list:

```
switch(config)# show forwarding multicast outgoing-interface-list

  Outgoing Interface List Index: 65535
  Reference Count: 9
switch(config)#
```

Related Commands	Command	Description
	<b>show forwarding distribution multicast</b>	Displays the information about multicast distribution messages.

# show forwarding multicast route

To display information about the IPv4 multicast routes, use the **show forwarding multicast route** command.

```
show forwarding [vrf {vrf-name | all}] [ip | ipv4] multicast route {[group {group-addr
[group-mask] | group-prefix} | source {source-addr [source-mask] | source-prefix} | module
num | vrf {vrf-name | all}]+ | summary [module num | vrf {vrf-name | all}]}
```

Syntax Description		
<b>vrf</b>	(Optional) Displays information for a specified virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	VRF name.	
<b>all</b>	Displays information for all VRFs.	
<b>ip</b>	(Optional) Specifies IPv4.	
<b>ipv4</b>	(Optional) Specifies IPv4.	
<b>group</b>	(Optional) Specifies IPv4 multicast group address.	
<i>group-addr</i>	IPv4 multicast group address.	
<i>group-mask</i>	(Optional) IPv4 multicast group address mask.	
<i>group-prefix</i>	(Optional) IPv4 multicast group prefix.	
<b>source</b>	(Optional) Specifies IPv4 multicast source address.	
<i>source-addr</i>	IPv4 multicast source address.	
<i>source-mask</i>	(Optional) IPv4 multicast source address mask.	
<i>source-prefix</i>	(Optional) IPv4 multicast source prefix.	
<b>module num</b>	(Optional) Specifies the module number.	
<b>summary</b>	Displays route counts.	

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

### Examples

This example shows how to display information about the IPv4 multicast routes:

```
switch(config)# show forwarding multicast route
IPv4 Multicast Routing table table-id:1
Total number of groups: 0
Legend:
  C = Control Route
  D = Drop Route
  G = Local Group (directly connected receivers)
  O = Drop on RPF failure
  P = Punt to Supervisor
  W = Wildcard

(*, 224.0.0.0/4), RPF Interface: NULL, flags: DW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, 224.0.0.0/24), RPF Interface: NULL, flags: CPW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, 224.0.1.39/32), RPF Interface: NULL, flags: CPW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, 224.0.1.40/32), RPF Interface: NULL, flags: CPW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List
```

### Related Commands

Command	Description
<b>show forwarding distribution multicast</b>	Displays the information about multicast distribution messages.

# show ip igmp event-history

To display information in the IGMP event history buffers, use the **show ip igmp event-history** command.

```
show ip igmp event-history { clis | debugs | errors | events | ha | igmp-internal | msgs | mtrace |
                             policy | statistics | vrf }
```

Syntax Description		
<b>clis</b>	Displays events of type CLI.	
<b>debugs</b>	Displays events of type debug.	
<b>errors</b>	Displays events of type error.	
<b>events</b>	Displays events of type event.	
<b>ha</b>	Displays events of type HA.	
<b>igmp-internal</b>	Displays events of type IGMP internal.	
<b>msgs</b>	Displays events of type msg.	
<b>mtrace</b>	Displays events of type mtrace.	
<b>policy</b>	Displays events of type policy.	
<b>statistics</b>	Displays events of type statistics.	
<b>vrf</b>	Displays events of type VRF.	

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information in the IGMP HA event history buffer:

```
switch(config)# show ip igmp event-history ha
```

```
  ha events for IGMP process
  1) Event:E_DEBUG, length:44, at 423337 usecs after Mon Dec 22 12:24:49 2008
```



***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
[121] : Updated entry in Route count database
2) Event:E_DEBUG, length:45, at 423072 usecs after Mon Dec 22 12:24:49 2008
   [121] : Updating entry in Route count database
3) Event:E_DEBUG, length:49, at 943183 usecs after Mon Dec 22 12:24:41 2008
   [121] : Recovered all route count entries from PSS
4) Event:E_DEBUG, length:38, at 943133 usecs after Mon Dec 22 12:24:41 2008
   [121] : Recovering Route count database
5) Event:E_DEBUG, length:55, at 943124 usecs after Mon Dec 22 12:24:41 2008
   [121] : Attempting IGMP SNOOP database stateful recovery
switch(config)#
```

#### Related Commands

Command	Description
<b>clear ip igmp event-history</b>	Clears the contents of the IGMP event history buffers.
<b>ip igmp event-history</b>	Configures the size of IGMP event history buffers.

# show ip igmp groups

To display information about IGMP-attached group membership, use the **show ip igmp groups** command.

```
show ip igmp groups [{source [group]} | {group [source]}] [if-type if-number] [vrf {vrf-name | all}]
```

Syntax Description	
<i>source</i>	Source IP address.
<i>group</i>	(Optional) Multicast IP address of the single group to display.
<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** The **show ip igmp route** command is an alternative form of this command.  
This command does not require a license.

**Examples** This example shows how to display information about the IGMP-attached group membership:

```
switch(config)# show ip igmp groups
IGMP Connected Group Membership for Context "default" - 2 total entries
Type: S - Static, D - Dynamic, L - Local, T - SSM Translated
Group Address      Type Interface      Uptime   Expires   Last Reporter
224.1.1.1          L    GigabitEthernet2/8  00:00:04  00:04:15  1.0.8.3
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
224.1.1.2          L   GigabitEthernet2/8  00:00:02  00:04:17  1.0.8.3
switch(config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp route</b>	Displays information about the IGMP-attached group membership.

---

# show ip igmp interface

To display information about IGMP on interfaces, use the **show ip igmp interface** command.

```
show ip igmp interface if-type if-number
```

```
show ip igmp interface [brief] [vrf {vrf-name | all}]
```

Syntax Description		
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.	
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.	
<b>brief</b>	(Optional) Displays one line status per interface.	
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	VRF name.	
<b>all</b>	Specifies all VRFs.	

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information when IGMP is in vPC mode.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information about IGMP on an interface (if IGMP is not in vPC mode, the vPC information is not displayed):

```
switch(config)# show ip igmp interface vlan 5
IGMP Interfaces for VRF "default"
Vlan5, Interface status: protocol-up/link-up/admin-up
IP address: 2.4.0.4, IP subnet: 2.4.0.0/24
Active querier: 2.4.0.4, version: 2, next query sent in: 00:01:02
Membership count: 0
Old Membership count 0
IGMP version: 2, host version: 2
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```

IGMP query interval: 125 secs, configured value: 125 secs
IGMP max response time: 10 secs, configured value: 10 secs
IGMP startup query interval: 31 secs, configured value: 31 secs
IGMP startup query count: 2
IGMP last member mrt: 1 secs
IGMP last member query count: 2
IGMP group timeout: 260 secs, configured value: 260 secs
IGMP querier timeout: 255 secs, configured value: 255 secs
IGMP unsolicited report interval: 10 secs
IGMP robustness variable: 2, configured value: 2
IGMP reporting for link-local groups: disabled
IGMP interface enable refcount: 1
IGMP Report Policy: None
IGMP State Limit: None
IGMP interface statistics:
  General (sent/received):
    v1-reports: 0/0
    v2-queries: 574/574, v2-reports: 0/3, v2-leaves: 0/3
    v3-queries: 0/0, v3-reports: 0/0
  Errors:
    Checksum errors: 0, Packet length errors: 0
    Packets with Local IP as source: 2, Source subnet check failures: 0
    Query from non-querier:0
    Report version mismatch: 0, Query version mismatch: 0
    Unknown IGMP message type: 0
    Invalid v1 reports: 0, Invalid v2 reports: 0, Invalid v3 reports: 0
    Packets dropped due to router-alert check: 0
Interface PIM DR: vPC Peer
Interface vPC CFS statistics:
  DR queries sent: 2
  DR queries rcvd: 0
  DR queries fail: 0
  DR updates sent: 4
  DR updates rcvd: 0
  DR updates fail: 0
switch(config)#

```

This example shows how to display information about IGMP on an interface in a brief format:

```

switch(config)# show ip igmp interface brief
IGMP Interfaces for VRF "default", count: 2
Interface          IP Address      IGMP Querier    Membership    Version
                  Count
Ethernet2/11       192.168.1.222  0.0.0.0         0             v2
Ethernet2/12       unassigned      0.0.0.0         0             v2
switch(config)#

```

#### Related Commands

Command	Description
<b>show ip igmp route</b>	Displays information about the IGMP-attached group membership.

# show ip igmp local-groups

To display information about IGMP local groups, use the **show ip igmp local-groups** command.

```
show ip igmp local-groups [if-type if-number] [vrf {vrf-name | all}]
```

Syntax Description		
<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.	
<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.	
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	VRF name.	
<b>all</b>	Specifies all VRFs.	

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information about IGMP local groups:

```
switch(config)# show ip igmp local-groups
IGMP Locally Joined Group Membership for VRF "default"
Group Address   Source Address  Type      Interface  Last Reported
230.0.0.0       *              Static    Eth2/11    4d04h
224.0.1.39      *              Local     Eth2/11    4d04h
224.0.1.40      *              Local     Eth2/11    4d04h
switch(config)#
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip igmp route</b>	Displays information about the IGMP-attached group membership.

---

# show ip igmp

To display IGMP status and configuration, use the **show ip igmp** command.

```
show ip igmp {groups | route} [{source [group]} | {group [source]}] [interface] [summary] [vrf
  {vrf-name | vrf-known-name | all}]
```

## Syntax Description

<b>groups</b>	Displays IGMP attached group membership information.
<b>route</b>	Displays IGMP attached group membership information.
<i>source</i>	Source IP address.
<i>group</i>	(Optional) Multicast IP address of single group to display.
<i>interface</i>	Displays port channel interface.
<b>summary</b>	Displays group summary.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

## Defaults

None

## Command Modes

Any command mode

## Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

## Command History

Release	Modification
6.1(1)	changed the position of the <b>summary</b> option in the <b>show ip igmp groups</b> and <b>show ip igmp route</b> set of commands (The <b>summary</b> option used to be after the <b>vrf</b> option and now it will be precede it).
4.0(1)	This command was introduced.

## Usage Guidelines

The **show ip igmp groups** command is an alternative form of this command.

This command does not require a license.



***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

---

**Examples**

This example shows how to display information about the IGMP-attached group membership:

```
switch(config)# show ip igmp route
IGMP Connected Group Membership for Context "default" - 2 total entries
Type: S - Static, D - Dynamic, L - Local, T - SSM Translated
Group Address      Type Interface      Uptime    Expires    Last Reporter
224.1.1.1          L    GigabitEthernet2/8  00:00:04  00:04:15  1.0.8.3
224.1.1.2          L    GigabitEthernet2/8  00:00:02  00:04:17  1.0.8.3
switch(config)#
```

---

**Related Commands**

Command	Description
<b>show ip igmp groups</b>	Displays information about the IGMP-attached group membership.

# show ip igmp snooping

To display information about IGMP snooping, use the **show ip igmp snooping** command.

```
show ip igmp snooping [vlan vlan-id]
```

<b>Syntax Description</b>	<b>vlan <i>vlan-id</i></b> (Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093. The default is all VLANs.
---------------------------	---

<b>Defaults</b>	Displays all VLANs.
-----------------	---------------------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

Command History	Release	Modification
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	This example shows how to display information about IGMP snooping for a VLAN:
-----------------	---

```
switch(config)# show ip igmp snooping vlan 1
IGMP Snooping information for vlan 1
  IGMP snooping enabled
  IGMP querier none
  Switch-querier disabled
  Explicit tracking enabled
  Fast leave enabled
  Report suppression enabled
  Router port detection using PIM Hellos, IGMP Queries
  Number of router-ports: 0
  Number of groups: 0
switch(config)#
```

Related Commands	Command	Description
	<b>show ip igmp route</b>	Displays information about the IGMP-attached group membership.

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show ip igmp snooping event-history

To display information in the IGMP snooping event history buffers, use the **show ip igmp snooping event-history** command.

```
show ip igmp snooping event-history { vpc | igmp-snoop-internal | mfdm | mfdm-sum | vlan |
vlan-events }
```

Syntax Description		
<b>vpc</b>		Displays the event history buffer of type virtual port channel (vPC).
<b>igmp-snoop-internal</b>		Displays the event history buffer of type IGMP snooping internal.
<b>mfdm</b>		Displays the event history buffer of type multicast FIB distribution (MFDM).
<b>mfdm-sum</b>		Displays the event history buffer of type MFDM sum.
<b>vlan</b>		Displays the event history buffer of type VLAN.
<b>vlan-events</b>		Displays the event history buffer of type VLAN events.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information in the IGMP snooping VLAN event history buffer:

```
switch(config)# show ip igmp snooping event-history vlan

vlan Events for IGMP snoopprocess
switch(config)#
```

■ **show ip igmp snooping event-history**

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>ip igmp snooping event-history</b>	Configures the size of the IGMP snooping event history buffers.
	<b>clear ip igmp snooping event-history</b>	Clears information in the IGMP snooping event history buffers.

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip igmp snooping explicit-tracking

To display information about explicit tracking for IGMP snooping, use the **show ip igmp snooping explicit-tracking** command.

```
show ip igmp snooping explicit-tracking [vlan vlan-id]
```

<b>Syntax Description</b>	<b>vlan <i>vlan-id</i></b> (Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
---------------------------	---

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.
	4.2(2)	This command was changed to make the <b>vlan</b> argument optional.

<b>Usage Guidelines</b>	When you use this command without the optional <b>vlan</b> argument, the system displays information for all VLANs.
-------------------------	---

This command does not require a license.

<b>Examples</b>	This example shows how to display information about explicit tracking for IGMP snooping for VLAN 33:
-----------------	--

```
switch(config)# show ip igmp snooping explicit-tracking vlan 33
IGMPv3 Snooping Explicit-tracking information
Source/Group          Intf      Reporter      Uptime      Last-Join Expires
1.1.1.1 232.1.1.1      Eth2/1      3.3.3.3      00:01:33    00:04:27    00:01:44
switch(config)#
```

# show ip igmp snooping groups

To display information about group membership for IGMP snooping, use the **show ip igmp snooping groups** command.

```
show ip igmp snooping groups [{source [group]} | {group [source]}] [vlan vlan-id] [detail]
```

Syntax Description	
<i>source</i>	(Optional) Source address for route.
<i>group</i>	(Optional) Group address for route.
<b>vlan</b> <i>vlan-id</i>	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
<b>detail</b>	(Optional) Displays detailed information for the group.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.1(2)	Arguments <i>source</i> and <i>group</i> were added.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information about group membership for IGMP snooping:

```
switch(config)# show ip igmp snooping groups
Type: S - Static, D - Dynamic, R - Router port

Vlan  Group Address      Ver  Type  Port list
33    225.1.1.1      v3   S     Eth2/1
switch(config)#
```

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip igmp snooping look-up mode

To display IGMP snooping lookup mode information, use the **show ip igmp snooping lookup-mode** command.

```
show ip igmp snooping look-up mode [vlan vlan-id]
```

Syntax Description	vlan	(Optional) Displays the VLAN information.
	<i>vlan-id</i>	(Optional) VLAN ID. The range is from 1 to 3967 and from 4048 to 4093.

**Defaults** None

**Command Modes** Global configuration mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	5.2(1)	This command was introduced.

**Usage Guidelines** If the VLAN is configured for MAC based lookup, then the display will show MAC entries, else it will show IP entries.

User can explicitly display an IP (BD,S,G) entry or MAC entry by specifying Group address or MAC address. If the lookup mode is IP and the user specifies MAC, show will return null and prints a message “Snooping lookups in group IP mode”. Similarly If the user specifies MAC and the lookup is IP, show command will return null and prints “Snooping lookups in group MAC mode”

This command does not require a license.

**Examples** This example shows how to display IGMP snooping lookup mode information:

```
switch(config)# show ip igmp snooping lookup-mode vlan 1
Global lookup-mode:
  configured : IP
  operational: MAC
VLAN lookup-mode
  1 IP
  10 MAC
  11 IP
switch(config)#
```

■ `show ip igmp snooping look-up mode`

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<code>show ip igmp snooping mac-oif</code>	Displays the IGMP Snooping static MAC OIF information.

---



[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip igmp snooping mac-oif

To display IGMP Snooping static MAC OIF information, use the **show ip igmp snooping mac-oif** command.

```
show ip igmp snooping mac-oif [vlan vlan-id] [detail]
```

Syntax Description	detail	(Optional) Displays the detail static MAC OIF, M2RIB OIF information.
	<b>vlan</b>	(Optional) Displays VLAN information.
	<i>vlan-id</i>	(Optional) VLAN ID. The range is from 1 to 3967 and from 4048 to 4093.

**Defaults** None

**Command Modes** Global configuration mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	5.2(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display IGMP snooping MAC OIF information:

```
switch(config)# show ip igmp snooping mac-oif
Total Mac OIF: 0
VLAN Count MAC-ADDR      OIFs
  1      0
switch(config)#
```

This example shows how to display detailed IGMP snooping MAC OIF and M2RIB OIF information:

```
switch(config)# show ip igmp snooping mac-oif detail
Total Mac OIF: 0
VLAN Count MAC-ADDR      OIFs
  1      0
switch(config)#
```

■ `show ip igmp snooping mac-oif`

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<code>show ip igmp snooping lookup-mode</code>	Displays the IGMP snooping lookup mode information.

---

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip igmp snooping mrouter

To display the multicast routers detected by IGMP snooping, use the **show ip igmp snooping mrouter** command.

```
show ip igmp snooping mrouter [vlan vlan-id]
```

Syntax Description	
<b>vlan <i>vlan-id</i></b>	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.

Defaults	
	None

Command Modes	
	Any command mode

Supported User Roles	
	network-admin network-operator vdc-admin vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information.

Usage Guidelines	
	This command does not require a license.

Examples	
	This example shows how to display the multicast routers detected by IGMP snooping:

```
switch(config)# show ip igmp snooping mrouter
Type: S - Static, D - Dynamic, V - vPC Peer Link
Vlan Router-port Type Uptime Expires
1 Po88 SV 00:00:51 never
2 Po88 SV 00:00:51 never
3 Po88 SV 00:00:51 never
4 Po88 SV 00:00:51 never
5 Vlan5 D 18:02:38 00:04:40
switch(config)#
```

Related Commands	Command	Description
	<b>show ip igmp snooping lookup-mode</b>	Displays the IGMP snooping lookup mode information.

# show ip igmp snooping querier

To display information about IGMP snooping queriers, use the **show ip igmp snooping querier** command.

**show ip igmp snooping querier** [*vlan vlan-id*]

<b>Syntax Description</b>	<b>vlan</b> <i>vlan-id</i> (Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
---------------------------	---

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	This example shows how to display information about IGMP snooping queriers:
-----------------	---

```
switch(config)# show ip igmp snooping querier
Vlan IP Address      Version  Port
1     172.20.50.11     v3      fa2/1
2     172.20.40.20     v2      Router
switch(config)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show ip igmp snooping lookup-mode</b>	Displays the IGMP snooping lookup mode information.

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show ip igmp snooping statistics

To display information about IGMP snooping statistics, use the **show ip igmp snooping statistics** command.

```
show ip igmp snooping statistics [vlan vlan-id | global]
```

Syntax Description	
<b>vlan</b> <i>vlan-id</i>	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
<b>global</b>	(Optional) Specifies the global statistics.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information.
	4.2(1)	Enhanced output for vPC information.
	4.2(2)	Changed command to make the <b>vlan</b> argument optional and to introduce the optional <b>global</b> argument.

**Usage Guidelines** When you use this command without any options, the system prints statistics for all VLANs. This command does not require a license.

**Examples** This example shows how to display information about IGMP snooping statistics for VLAN 1:

```
switch(config)# show ip igmp snooping statistics vlan 1
Global IGMP snooping statistics:
Packets received: 78
  Packet errors: 0
  Packets for non-snooped vlans : 0
  Packets flooded: 41
  vPC PIM DR queries sent: 0
  vPC PIM DR queries rcvd: 0
  vPC PIM DR queries fail: 0
  vPC PIM DR updates sent: 4
  vPC PIM DR updates rcvd: 0
```

## show ip igmp snooping statistics

```

vPC PIM DR updates fail: 0
vPC CFS send fail: 0
vPC CFS message response sent: 13
vPC CFS message response rcvd: 16
vPC CFS message response fail: 0
vPC CFS message response fail peer-link down: 0
vPC CFS unreliable message sent: 35
vPC CFS unreliable message rcvd: 37
vPC CFS unreliable message fail: 0
vPC CFS reliable message sent: 16
vPC CFS reliable message rcvd: 13
vPC CFS reliable message fail: 0
STP TCN messages rcvd: 22
IM api failed: 0
VLAN 2 IGMP snooping statistics, last reset: never
Packets received: 29
IGMPv1 reports received: 0
IGMPv2 reports received: 13
IGMPv3 reports received: 0
IGMPv1 queries received: 0
IGMPv2 queries received: 14
IGMPv3 queries received: 0
IGMPv2 leaves received: 0
PIM Hellos received: 0
Invalid reports received: 0
Invalid queries received: 0
IGMPv1 reports suppressed: 0
IGMPv2 reports suppressed: 0
IGMPv2 leaves suppressed: 0
IGMPv3 group records suppressed: 0
Queries originated: 0
IGMPv2 proxy-reports originated: 0
IGMPv2 proxy-leaves originated: 0
IGMPv3 proxy-reports originated: 0
Packets sent to routers: 13
STP TCN received: 9
Report version mismatch: 0
Unknown packets received: 0
vPC Peer Link CFS packet statistics:
  IGMP packets (sent/rcv/fail): 11/16/0
  MRD updates (sent/rcv/fail): 0/0/0

```

### Related Commands

Command	Description
<b>show ip igmp snooping lookup-mode</b>	Displays the IGMP snooping lookup mode information.

**Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).**

## show ip mroute

To display information about IPv4 multicast routes, use the **show ip mroute** command.

```
show ip mroute {group | {source group} | {group [source]}} [summary [software-forwarded]]
[vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	Group address for route.
<i>source</i>	Source address for route.
<b>summary</b>	(Optional) Displays route counts and packet rates.
<b>software-forwarded</b>	(Optional) Displays software-switched route counts only.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about multicast routes:

```
switch(config)# show ip mroute
IP Multicast Routing Table for VRF "default"

(*, 224.1.1.1/32), uptime: 13:00:28, igmp ip pim
  Incoming interface: Loopback1 (iod: 3), RPF nbr: 2.2.2.2
  Outgoing interface list: (count: 1)
    GigEther2/0/1 (iod 4), uptime: 13:00:28, igmp

(*, 226.1.1.1/32), uptime: 13:00:32, igmp ip pim
  Incoming interface: Loopback1 (iod: 3), RPF nbr: 2.2.2.2
```

## ■ show ip mroute

```

Outgoing interface list: (count: 1)
  GigEther2/0/1 (iod 4), uptime: 13:00:32, igmp

(*, 228.2.2.2/32), uptime: 13:00:27, igmp ip pim
  Incoming interface: Loopback1 (iod: 3), RPF nbr: 2.2.2.2
  Outgoing interface list: (count: 1)
    GigEther2/0/1 (iod 4), uptime: 13:00:27, igmp

(*, 232.0.0.0/8), uptime: 13:01:27, pim ip
  Incoming interface: Null (iod: 0), RPF nbr: 0.0.0.0
  Outgoing interface list: (count: 0)

switch(config)#

```

The display specifies the interface established for each one and shows the router owners. In the case of the first paragraph in the display, the route owner is **igmp ip pim**. **iod** is an internal representation the device uses for the interface.

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ip mroute summary</b>	Displays summary information about IPv4 multicast routes.

---



[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip mroute summary

To display summary information about IPv4 multicast routes, use the **show ip mroute summary** command.

```
show ip mroute summary [count | software-forwarded] [vrf {vrf-name | all}]
```

```
show ip mroute {group} summary [software-forwarded] [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	<b>count</b>	(Optional) Displays only route counts.
	<b>software-forwarded</b>	(Optional) Displays software-switched route counts only.
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name.
	<b>all</b>	Specifies all VRFs.
	<i>group</i>	Specifies a group address for a route.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display summary information about multicast routes:

```
switch(config)# show ip mroute summary
IP Multicast Routing Table for VRF "default"

Total number of routes: 6
Total number of (*,G) routes: 4
Total number of (S,G) routes: 1
Total number of (*,G-prefix) routes: 1
Group count: 4, rough average sources per group: 0.2
```

## ■ show ip mroute summary

```

Group: 225.0.0.1/32, Source count: 0
Source          packets      bytes      aps      pps      bit-rate  oifs
(*,G)           0             0          0        0        0 bps    1

Group: 225.0.1.1/32, Source count: 0
Source          packets      bytes      aps      pps      bit-rate  oifs
(*,G)           0             0          0        0        0 bps    1

Group: 225.1.1.1/32, Source count: 1
Source          packets      bytes      aps      pps      bit-rate  oifs
(*,G)           0             0          0        0        0 bps    4
2.1.1.2         0             0          0        0        0 bps    4

Group: 226.1.1.1/32, Source count: 0
Source          packets      bytes      aps      pps      bit-rate  oifs
(*,G)           0             0          0        0        0 bps    1

Group: 232.0.0.0/8, Source count: 0
Source          packets      bytes      aps      pps      bit-rate  oifs
(*,G)           0             0          0        0        0 bps    0
0 bps          0
switch(config)#

```

**Related Commands**

Command	Description
<b>show ip mroute</b>	Displays information about IPv4 multicast routes.

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip msdp count

To display information about Multicast Source Discovery Protocol (MSDP) counts, use the **show ip msdp count** command.

```
show ip msdp count [asn] [vrf {vrf-name | all}]
```

Syntax Description	
<i>asn</i>	(Optional) Autonomous systems (AS) number.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display MSDP counts:

```
switch(config)# show ip msdp count
SA State per ASN, context "default" - 2134 total entries
  <asn>: <(S,G) count>/<group count>
    3:    5/4      8:    4/4      9:    7/6      12:    1/1
    14:   18/14   17:    4/3     18:   11/3     25:   331/290
    26:   10/6    27:    1/1     32:    4/4     38:    8/5
    52:   11/2    55:   13/2     59:   12/9     70:    6/4
    73:   10/10   81:   30/13    87:    1/1    103:   11/10
   109:  46/23   111:    1/1   131:   21/3    137:    8/8
   159:   9/6   160:    2/2   194:    2/1   195:    2/1
   217:   1/1   224:  24/13   225:    1/1   237:  38/31
   271:   8/7   291:    1/1   292:    2/2   293:    5/4
   297:   6/6   549:   3/2   553:    1/1   559:   23/18
   668:   2/1   680:  26/21   683:   16/10  704:   18/15
   766:  18/17   776:    2/2   786:  123/49  818:    2/2
  1103:  46/37  1161:   2/2  1224:   10/8  1239:    9/9
```

## show ip msdp count

```

1273:    1/1    1312:    1/1    1657:    6/6    1706:    7/6
1725:    1/1    1739:    3/3    1741:    11/11  1742:    6/5
1835:    1/1    1851:    2/1    1935:    1/1    1998:    6/6
2055:    7/6    2107:    2/2    2152:    7/5    2200:    46/29
2259:    168/4  2381:    8/4    2422:    5/5    2594:    25/25
2607:    64/59  2611:    45/37  2637:    5/4    2701:    1/1
2852:    117/16 2914:    2/2    3323:    2/2    3582:    27/24
3676:    7/3    3685:    9/8    3851:    1/1    3912:    5/3
3948:    1/1    3999:    6/4    4130:    4/4    4201:    5/4
4385:    9/5    5050:    1/1    5408:    4/3    5520:    3/3
5640:    26/6    5661:    14/10  5664:    3/3    5719:    2/2
5739:    1/1    6192:    5/2    6200:    2/2    6263:    8/5
6360:    3/1    6366:    8/6    6481:    15/12  6509:    31/9
7082:    4/1    7212:    4/3    7377:    10/9   7539:    63/37
7570:    3/3    7571:    1/1    7572:    1/1    7575:    20/11
7610:    1/1    7660:    1/1    7774:    2/1    7896:    2/2
8071:    5/3    8111:    22/22  9112:    5/2    9270:    2/1
9821:    1/1    10546:   2/2    10764:   1/1    10886:   2/2
11050:   2/2    11078:   2/1    11279:   13/3   11537:   8/3
11546:   1/1    11808:   1/1    12005:   2/2    12173:   1/1
13476:   1/1    13501:   5/4    14077:   3/3    15474:   1/1
15725:   1/1    16430:   2/1    16517:   2/2    17055:   3/2
18047:   14/14  18062:   111/41 18297:   2/2    20965:   24/1
22168:   2/2    23366:   6/2    23504:   5/1    23719:   11/8
24433:   6/3    24434:   5/2    24437:   1/1    25656:   1/1
25689:   3/3    26002:   5/3    26367:   1/1    26934:   3/3
26971:   1/1    29825:   1/1    32666:   5/5    65028:   1/1
switch(config)#

```

## Related Commands

Command	Description
<b>clear ip msdp event-history</b>	Clears the contents of the MSDP event history buffers.

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show ip msdp event-history

To display information in the Multicast Source Discovery Protocol (MSDP) event history buffers, use the **show ip msdp event-history** command.

```
show ip msdp event-history {errors | msgs | statistics}
```

### Syntax Description

<b>errors</b>	Displays events of type error.
<b>msgs</b>	Displays events of type msg.
<b>statistics</b>	Displays events of type statistics.

### Defaults

None

### Command Modes

Any command mode

### Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

### Command History

Release	Modification
4.1(2)	This command was introduced.

### Usage Guidelines

This command does not require a license.

### Examples

This example shows how to display information in the MSDP msgs event history buffer:

```
switch(config)# show ip msdp event-history msgs

Msg events for MSDP Process
1) Event:E_DEBUG, length:38, at 198828 usecs after Wed Jan  7 17:24:45 2009
   [100] : nvdb: transient thread created

2) Event:E_DEBUG, length:38, at 197333 usecs after Wed Jan  7 17:24:45 2009
   [100] : nvdb: create transcient thread

3) Event:E_DEBUG, length:77, at 197327 usecs after Wed Jan  7 17:24:45 2009
   [100] : comp-mts-rx opc - from sap 27315 cmd msdp_show_internal_event_hist_cmd

4) Event:E_DEBUG, length:35, at 277809 usecs after Wed Jan  7 17:24:40 2009
   [100] : nvdb: terminate transaction

5) Event:E_DEBUG, length:60, at 277696 usecs after Wed Jan  7 17:24:40 2009
   [100] : nvdb: msdp_show_internal_event_hist_cmd returned 0x0
```

## show ip msdp event-history

```

6) Event:E_DEBUG, length:38, at 277243 usecs after Wed Jan  7 17:24:40 2009
   [100] : nvdb: transient thread created

7) Event:E_DEBUG, length:38, at 275631 usecs after Wed Jan  7 17:24:40 2009
   [100] : nvdb: create transient thread

8) Event:E_DEBUG, length:77, at 275625 usecs after Wed Jan  7 17:24:40 2009
   [100] : comp-mts-rx opc - from sap 27315 cmd msdp_show_internal_event_hist_cmd

9) Event:E_DEBUG, length:47, at 93136 usecs after Wed Jan  7 17:24:32 2009
   [100] : nvdb: _cli_send_my_command returned 0x0
switch(config)#

```

### Related Commands

Command	Description
<b>clear ip msdp event-history</b>	Clears the contents of the MSDP event history buffers.
<b>ip msdp event-history</b>	Configures the size of MSDP event history buffers.

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

## show ip msdp mesh-group

To display information about Multicast Source Discovery Protocol (MSDP) mesh groups, use the **show ip msdp mesh-group** command.

```
show ip msdp mesh-group [mesh-group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>mesh-group</i>	(Optional) Mesh group name.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about MSDP mesh groups:

```
switch(config)# show ip msdp mesh-group
MSDP Mesh-Group Membership for VRF "default"
Mesh-group: my_mesh_group
  Peer: 192.168.1.10, AS: 8, description: engineering peer
```

Related Commands	Command	Description
	<b>clear ip msdp route</b>	Clears routes in the MSDP Source-Active cache.
	<b>show ip msdp sa-cache</b>	Displays information about the MSDP SA cache.

# show ip msdp peer

To display information about Multicast Source Discovery Protocol (MSDP) peers, use the **show ip msdp peer** command.

```
show ip msdp peer [peer-address] [vrf {vrf-name | all}]
```

Syntax Description	
<i>peer-address</i>	(Optional) IP address of an MSDP peer.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about MSDP peers:

```
switch(config)# show ip msdp peer
MSDP peer 192.168.1.10 for VRF "default"
AS 8, local address: 192.168.1.222 (Ethernet2/11)
  Description: engineering peer
  Connection status: Listening
  Uptime(Downtime): 01:14:30
  Last reset reason: Connect source interface address changed
  Password: not set
  Keepalive Interval: 10 sec
  Keepalive Timeout: 20 sec
  Reconnection Interval: 20 sec
  Policies:
    SA in: my_incoming_sa_policy, SA out: none
    SA limit: unlimited
  Member of mesh-group: my_mesh_group
  Statistics (in/out):
```



***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
Last messaged received: never
SAs: 0/0, SA-Requests: 0/0, SA-Responses: 0/0
Keepalives: 0/0, Notifications: 0/0
switch(config)#
```

**Related Commands**

Command	Description
<b>clear ip msdp route</b>	Clears routes in the MSDP Source-Active cache.
<b>show ip msdp sa-cache</b>	Displays information about the MSDP SA cache.

# show ip msdp policy statistics sa-policy

To display information about Multicast Source Discovery Protocol (MSDP) Source-Active (SA) policies, use the **show ip msdp policy statistics sa-policy** command.

```
show ip msdp policy statistics sa-policy peer-address {in | out} [vrf {vrf-name}]
```

Syntax	Description
<i>peer-address</i>	IP address of the MSDP peer for the SA policy.
<b>in</b>	Specifies the input policy.
<b>out</b>	Specifies the output policy.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about MSDP SA policies:

```
switch(config)# show ip msdp policy statistics sa-policy 192.168.1.10 in
C: No. of comparisons, M: No. of matches

route-map rmap1 permit 10
  match ip multicast group 225.1.1.0/24                C: 0      M: 0

Total accept count for policy: 12
Total reject count for policy: 21
switch(config)#
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip msdp route</b>	Clears routes in the MSDP Source-Active cache.

---

# show ip msdp route

To display information about the Multicast Source Discovery Protocol (MSDP) Source-Active (SA) cache, use the **show ip msdp route** command.

```
show ip msdp route [{source [group]} | {group [source]}] [asn] [peer peer] [detail] [vrf {vrf-name | all}]
```

Syntax	Description
<i>source</i>	Source address for SA cache information.
<i>group</i>	(Optional) Group address for SA cache information.
<i>asn</i>	(Optional) AS number.
<b>peer</b> <i>peer</i>	(Optional) Specifies the IP address of a peer.
<b>detail</b>	(Optional) Displays detailed information.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** The **show ip msdp sa-cache** command is an alternative form of this command. This command requires the Enterprise Services license.

**Examples** This example shows how to display information about the MSDP SA cache:

```
switch(config)# show ip msdp route
MSDP SA Route Cache for Context "default" - 2138 entries
Source          Group          RP              ASN            Uptime
24.124.36.130   224.0.1.1     144.228.240.250 1239           17:35:19
64.104.160.29   224.0.1.1     204.69.199.17   109            17:35:19
128.59.21.232   224.0.1.1     128.59.0.51     14             03:33:59
128.117.37.217  224.0.1.1     128.117.243.9   194            04:07:17
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```

128.117.37.220 224.0.1.1 128.117.243.9 194 04:08:45
129.49.88.9 224.0.1.1 199.109.44.1 5719 17:34:48
130.18.14.12 224.0.1.1 192.208.151.9 10546 17:35:19
130.37.20.4 224.0.1.1 145.145.255.6 1103 17:35:21
130.37.20.5 224.0.1.1 145.145.255.6 1103 17:35:21
130.37.20.7 224.0.1.1 145.145.255.6 1103 17:35:21
130.37.64.252 224.0.1.1 145.145.255.6 1103 17:35:21
130.88.20.1 224.0.1.1 194.66.25.224 786 17:35:19
130.159.54.4 224.0.1.1 194.81.62.54 786 17:35:19
130.159.228.48 224.0.1.1 194.81.62.54 786 17:35:19
130.159.248.12 224.0.1.1 194.81.62.54 786 17:35:19
132.234.1.1 224.0.1.1 132.234.251.232 7575 13:40:17
134.174.190.41 224.0.1.1 192.5.66.202 1742 17:34:45
--More--q
switch(config)#

```

#### Related Commands

Command	Description
<b>clear ip msdp route</b>	Clears routes in the MSDP Source-Active cache.
<b>show ip msdp sa-cache</b>	Displays information about the MSDP SA cache.

# show ip msdp rpf

To display information about the Multicast Source Discovery Protocol (MSDP) next-hop autonomous system (AS) on the BGP path to an RP address, use the **show ip msdp rpf** command.

```
show ip msdp rpf rp-address [vrf {vrf-name all}]
```

Syntax Description		
	<i>rp-address</i>	IP address of the RP.
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about MSDP RPF peers:

```
switch(config)# show ip msdp rpf 192.168.1.10
MSDP RPF-Peer for RP 192.168.1.10, VRF default:
  Mesh-group check:
    Peer 192.168.1.10, mesh-group member of my_mesh_group
  Peer/route-lookup check:
    Peer 192.168.1.10, only MSDP peer configured, peer is RP
switch(config)#
```

Related Commands	Command	Description
	<b>clear ip msdp route</b>	Clears routes in the MSDP Source-Active cache.
	<b>show ip msdp sa-cache</b>	Displays information about the MSDP SA cache.

**Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).**

## show ip msdp sa-cache

To display information about the Multicast Source Discovery Protocol (MSDP) Source-Active (SA) cache, use the **show ip msdp sa-cache** command.

```
show ip msdp {sa-cache | route} [{source [group]} | {group [source]}] [asn] [peer peer] [detail]
[vrf {vrf-name | all}]
```

Syntax Description	
<i>source</i>	Source address for SA cache information.
<i>group</i>	(Optional) Group address for SA cache information.
<i>asn</i>	(Optional) AS number.
<b>peer</b> <i>peer</i>	(Optional) Specifies the IP address of a peer.
<b>detail</b>	(Optional) Displays detailed information.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** The **show ip msdp route** command is an alternative form of this command. This command requires the Enterprise Services license.

**Examples** This example shows how to display information about the MSDP SA cache:

```
switch(config)# show ip msdp sa-cache
MSDP SA Route Cache for Context "default" - 2138 entries
Source          Group          RP              ASN            Uptime
24.124.36.130   224.0.1.1      144.228.240.250 1239           17:35:19
64.104.160.29   224.0.1.1      204.69.199.17   109            17:35:19
128.59.21.232   224.0.1.1      128.59.0.51     14             03:33:59
128.117.37.217  224.0.1.1      128.117.243.9   194            04:07:17
```

## show ip msdp sa-cache

```

128.117.37.220 224.0.1.1 128.117.243.9 194 04:08:45
129.49.88.9 224.0.1.1 199.109.44.1 5719 17:34:48
130.18.14.12 224.0.1.1 192.208.151.9 10546 17:35:19
130.37.20.4 224.0.1.1 145.145.255.6 1103 17:35:21
130.37.20.5 224.0.1.1 145.145.255.6 1103 17:35:21
130.37.20.7 224.0.1.1 145.145.255.6 1103 17:35:21
130.37.64.252 224.0.1.1 145.145.255.6 1103 17:35:21
130.88.20.1 224.0.1.1 194.66.25.224 786 17:35:19
130.159.54.4 224.0.1.1 194.81.62.54 786 17:35:19
130.159.228.48 224.0.1.1 194.81.62.54 786 17:35:19
130.159.248.12 224.0.1.1 194.81.62.54 786 17:35:19
132.234.1.1 224.0.1.1 132.234.251.232 7575 13:40:17
134.174.190.41 224.0.1.1 192.5.66.202 1742 17:34:45
--More--q
switch(config)#

```

### Related Commands

Command	Description
<b>clear ip msdp sa-cache</b>	Clears routes in the MSDP Source-Active cache.
<b>show ip msdp route</b>	Displays information about the MSDP SA cache.



[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip msdp sources

To display information about Multicast Source Discovery Protocol (MSDP) learned sources, use the **show ip msdp sources** command.

```
show ip msdp sources [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about MSDP learned sources:

```
switch(config)# show ip msdp sources

MSDP Learned Sources and Group-Limit Information for VRF "default"
Source          Group Count  Group Limit  Source Prefix  Violations
18.7.25.94      1            unlimited   --             0
18.39.0.30      1            unlimited   --             0
18.62.10.96     1            unlimited   --             0
18.62.10.177   1            unlimited   --             0
18.89.2.245    1            unlimited   --             0
24.124.36.130  1            unlimited   --             0
62.40.98.21    1            unlimited   --             0
62.40.98.52    1            unlimited   --             0
62.40.98.75    1            unlimited   --             0
62.40.98.117   1            unlimited   --             0
62.40.98.139   1            unlimited   --             0
62.40.98.140   1            unlimited   --             0
62.40.98.152   1            unlimited   --             0
```

## ■ show ip msdp sources

```

62.40.98.171    1          unlimited  --          0
62.40.98.202    1          unlimited  --          0
62.40.98.212    1          unlimited  --          0
--More--q
switch(config)#

```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip msdp route</b>	Clears routes in the MSDP Source-Active cache.
<b>show ip msdp sa-cache</b>	Displays information about the MSDP SA cache.

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip msdp summary

To display summary information about Multicast Source Discovery Protocol (MSDP) peers, use the **show ip msdp summary** command.

```
show ip msdp summary [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display summary information about MSDP peers:

```
switch(config)# show ip msdp summary
MSDP Peer Status Summary for VRF "default"
Local ASN: 0, originator-id: 0.0.0.0

Number of configured peers: 1
Number of established peers: 0
Number of shutdown peers: 0

Peer          Peer          Connection    Uptime/    Last msg    (S,G)s
Address       ASN           State         Downtime   Received   Received
192.168.1.10  8             Listening      01:35:13  never      0
switch(config)#
```

# show ip netstack mroute

To show IPv4 multicast routes in the Network Stack cache, use the **show ip netstack mroute** command.

```
show ip netstack mroute [vrf vrf-name]
```

<b>Syntax Description</b>	<b>vrf vrf-name</b> (Optional) Specifies the VRF name.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(3)	This command was introduced.

<b>Usage Guidelines</b>	This command does not require a license.
-------------------------	--

<b>Examples</b>	This example shows how to display multicast routes in the Network Stack cache:
-----------------	--

```
switch(config)# show ip netstack mroute
(0.0.0.0/0, 225.1.1.1/32)
  Software switched packets: 1, bytes: 84
(4.1.1.2/32, 225.1.1.1/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 225.1.1.2/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.2/32), data-created
  Software switched packets: 5, bytes: 420
(0.0.0.0/0, 225.1.1.3/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.3/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 225.1.1.4/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.4/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 225.1.1.5/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.5/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 226.1.1.1/32)
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
Software switched packets: 0, bytes: 0
(0.0.0.0/0, 226.2.2.2/32)
Software switched packets: 0, bytes: 0
(0.0.0.0/0, 232.0.0.0/8)
Software switched packets: 0, bytes: 0
switch(config)#
```

# show ip pim df

To display information about the designated forwarders (DFs) for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim df** command.

```
show ip pim df [rp-or-group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>rp-or-group</i>	(Optional) RP or group address.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM DFs:

```
switch(config)# show ip pim df
Bidir-PIM Designated Forwarder Information for VRF "default"

RP Address (ordinal)  DF-bits          RP Metric  Group Range
2.2.2.2 (2)          00000002 (1)    [0/0]      224.128.0.0/9

  Interface          DF Address      DF State   DF Metric   DF Uptime
  Loopback0          1.1.1.1         Winner     [0/0]       00:28:14
  Ethernet2/2        10.2.0.2        Lose       [0/0]       00:28:14

switch(config)#
```

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show ip pim event-history

To display information in the IPv4 Protocol Independent Multicast (PIM) event history buffers, use the `show ip pim event-history` command.

```
show ip pim event-history {errors | msgs | statistics}
```

### Syntax Description

<b>errors</b>	Displays events of type error.
<b>msgs</b>	Displays events of type msg.
<b>statistics</b>	Displays events of type statistics.

### Defaults

None

### Command Modes

Any command mode

### Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

### Command History

Release	Modification
4.1(2)	This command was introduced.

### Usage Guidelines

This command does not require a license.

### Examples

This example shows how to display information in the PIM msgs event history buffer:

```
switch(config)# show ip pim event-history msgs
Note: PIM process currently not running
switch(config)#
```

### Related Commands

Command	Description
<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

# show ip pim group-range

To display information about the group ranges for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim group-range** command.

```
show ip pim group-range [group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	(Optional) Group address.
<i>vrf</i>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM group ranges:

```
switch(config)# show ip pim group-range
PIM Group-Range Configuration for VRF "default"
Group-range      Mode      RP-address      Shared-tree-only range
239.128.1.0/24   SSM       -               -
224.0.0.0/9      ASM       192.0.2.33     -
switch(config)#
```

Related Commands	Command	Description
	<b>ip pim event-history</b>	Configures the size of PIM event history buffers.



[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip pim interface

To display information about the enabled interfaces for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim interface** command.

```
show ip pim interface [brief] [vrf {vrf-name | all}]
```

```
show ip pim interface if-type if-number
```

Syntax Description		
<b>brief</b>	(Optional) Specifies a brief format for display.	
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	VRF name.	
<b>all</b>	Specifies all VRFs.	
<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.	
<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.	

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	5.0(2)	Information on Bidirectional Forwarding Detection (BFD) was added.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM-enabled interfaces:

```
switch(config)# show ip pim interface ethernet 2/11
PIM Interface Status for VRF "default"
Ethernet2/11, Interface status: protocol-down/link-down/admin-up
IP address: 192.168.1.222, IP subnet: 192.168.1.0/24
PIM DR: 192.168.1.222, DR's priority: 5
PIM neighbor count: 0
PIM hello interval: 30 secs, next hello sent in: 00:00:03
PIM neighbor holdtime: 105 secs
```

## show ip pim interface

```

PIM configured DR priority: 5
PIM border interface: no
PIM GenID sent in Hellos: 0x112ba48b
PIM Hello MD5-AH Authentication: enabled
PIM Neighbor policy: my_neighbor_policy
PIM Join-Prune policy: none configured
PIM BFD Enabled: Yes
PIM Interface Statistics, last reset: never
  General (sent/received):
    Hellos: 3145/0, JPs: 0/0, Asserts: 0/0
    Grafts: 0/0, Graft-Acks: 0/0
    DF-Offers: 0/0, DF-Winners: 0/0, DF-Backoffs: 0/0, DF-Passes: 0/0
  Errors:
    Checksum errors: 0, Invalid packet types/DF subtypes: 0/0
    Authentication failed: 0
    Packet length errors: 0, Bad version packets: 0, Packets from self: 0
    Packets from non-neighbors: 0
    JPs received on RPF-interface: 0
    (*,G) Joins received with no/wrong RP: 0/0
    (*,G)/(S,G) JPs received for SSM/Bidir groups: 0/0
    JPs policy filtered: 0
switch(config)#

```

### Related Commands

Command	Description
<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

**Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).**

## show ip pim neighbor

To display information about IPv4 Protocol Independent Multicast (PIM) neighbors, use the **show ip pim neighbor** command.

```
show ip pim neighbor {[if-type if-number] | [neighbor-addr]} [vrf {vrf-name | all}]
```

Syntax Description		
<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.	
<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.	
<i>neighbor-addr</i>	(Optional) IP address of a neighbor.	
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	VRF name.	
<b>all</b>	Specifies all VRFs.	

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	5.0(2)	Information on Bidirectional Forwarding Detection (BFD) was added.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM neighbors:

```
switch(config)# show ip pim neighbor
PIM Neighbor Status for VRF "default"
Neighbor          Interface          Uptime    Expires    DR          Bidir-    BFD-Enabled
                  Priority          Capable   (Up/Down)
2.1.1.2           Ethernet2/2        07:53:06  00:01:40  1          yes       Yes (Down)
switch(config)#
```

■ show ip pim neighbor

Related Commands	Command	Description
	clear ip pim event-history	Clears the contents of the PIM event history buffers.
	ip pim event-history	Configures the size of PIM event history buffers.

**Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).**

## show ip pim oif-list

To display information about IPv4 Protocol Independent Multicast (PIM) interfaces for a group, use the **show ip pim oif-list** command.

```
show ip pim oif-list group [source] [vrf {vrf-name | all}]
```

Syntax Description		
	<i>group</i>	Group address.
	<i>source</i>	(Optional) Source address.
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display PIM interfaces for a group:

```
switch(config)# show ip pim oif-list 225.1.1.1
PIM OIF-List for VRF default
(*, 225.1.1.1/32)
  Incoming interface: Ethernet2/1, RPF nbr 4.1.1.1
  Timeout interval: 38 secs left
  Oif-list (count: 0): (1) 00000010
  Timeout-list (count: 0): (0) 00000000
  Immediate-list (count: 0):
  Immediate-timeout-list (count: 0):
  Assert-lost-list (count: 1):
    Vlan5
switch(config)#
```

■ show ip pim oif-list

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip pim policy statistics auto-rp

To display information about the Auto-RP policy statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim policy statistics auto-rp** command.

```
show ip pim policy statistics auto-rp {rp-candidate-policy | mapping-agent-policy} [vrf
  {vrf-name | all}]
```

Syntax Description	
<b>rp-candidate-policy</b>	Specifies candidate-RP messages.
<b>mapping-agent-policy</b>	Specifies mapping agent messages.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM policy statistics:

```
switch(config)# show ip pim policy statistics auto-rp rp-candidate-policy
C: No. of comparisons, M: No. of matches

route-map rpolicy permit 1
  match ip multicast group 225.1.1.0/24      C: 0      M: 0

Total accept count for policy: 0
Total reject count for policy: 0
switch(config)#
```

■ show ip pim policy statistics auto-rp

Related Commands	Command	Description
	clear ip pim event-history	Clears the contents of the PIM event history buffers.
	ip pim event-history	Configures the size of PIM event history buffers.



[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip pim policy statistics bsr

To display information about the bootstrap router (BSR) policy statistics for IPv4 Protocol Independent multicast (PIM), use the **show ip pim policy statistics bsr** command.

```
show ip pim policy statistics bsr {bsr-policy | rp-candidate-policy} [vrf {vrf-name | all}]
```

Syntax	Description
<b>bsr-policy</b>	Specifies BSR messages.
<b>rp-candidate-policy</b>	Specifies candidate-RP messages.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM policy statistics:

```
switch(config)# show ip pim policy statistics bsr bsr-policy
C: No. of comparisons, M: No. of matches

route-map rpolicy permit 1
  match ip multicast group 225.1.1.0/24      C: 0      M: 0

Total accept count for policy: 0
Total reject count for policy: 0
switch(config)#
```

■ show ip pim policy statistics bsr

Related Commands	Command	Description
	clear ip pim event-history	Clears the contents of the PIM event history buffers.
	ip pim event-history	Configures the size of PIM event history buffers.

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip pim policy statistics jp-policy

To display information about the join-prune policy statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim policy statistics jp-policy** command.

**show ip pim policy statistics jp-policy** *if-type if-number*

Syntax Description		
	<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM policy statistics:

```
switch(config)# show ip pim policy statistics jp-policy ethernet 2/12
C: No. of comparisons, M: No. of matches

route-map rpolicy permit 1
  match ip multicast group 225.1.1.0/24          C: 0      M: 0

Total accept count for policy: 0
Total reject count for policy: 0
switch(config)#
```

**■** show ip pim policy statistics jp-policy

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
	<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip pim policy statistics neighbor-policy

To display information about the neighbor policy statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim policy statistics neighbor-policy** command.

**show ip pim policy statistics neighbor-policy** *if-type if-number*

Syntax Description		
	<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM policy statistics:

```
switch(config)# show ip pim policy statistics neighbor-policy ethernet 2/12
C: No. of comparisons, M: No. of matches

route-map rpolicy permit 1
  match ip multicast group 225.1.1.0/24          C: 0      M: 0

Total accept count for policy: 0
Total reject count for policy: 0
switch(config)#
```

■ show ip pim policy statistics neighbor-policy

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip pim policy statistics register-policy

To display information about the register policy statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim policy statistics register-policy** command.

```
show ip pim policy statistics register-policy [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM policy statistics:

```
switch(config)# show ip pim policy statistics register-policy vrf all
C: No. of comparisons, M: No. of matches

route-map rmap1 permit 10
  match ip multicast group 225.1.1.0/24                C: 0      M: 0

Total accept count for policy: 0
Total reject count for policy: 0
switch(config)#
```

Related Commands	Command	Description
	<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
	<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

# show ip pim route

To display information about the routes for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim route** command.

```
show ip pim route { source group | group [source] } [vrf { vrf-name | all }]
```

Syntax	Description
<i>source</i>	Source address.
<i>group</i>	Group address.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display PIM routes:

```
switch(config)# show ip pim route 224.1.1.1
PIM Routing Table for VRF "default" - 6 entries

(*, 224.0.0.0/4), RP 1.1.1.1*, bidir, expires 00:00:59, RP-bit
  Incoming interface: loopback4, RPF nbr 1.1.1.1
  Oif-list: (0) 00000000, timeout-list: (0) 00000000
  Timeout-interval: 1, JP-holdtime round-up: 3

(*, 225.0.0.1/32), RP 1.1.1.1*, bidir, expires 0.000000 (00:00:06), RP-bit
  Incoming interface: loopback4, RPF nbr 1.1.1.1
  Oif-list: (0) 00000000, timeout-list: (0) 00000000
  Timeout-interval: 1, JP-holdtime round-up: 3

(*, 225.0.1.1/32), RP 1.1.1.1*, bidir, expires 0.000000 (00:00:06), RP-bit
```



***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
Incoming interface: loopback4, RPF nbr 1.1.1.1  
Oif-list: (0) 00000000, timeout-list: (0) 00000000  
Timeout-interval: 1, JP-holdtime round-up: 3
```

```
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

# show ip pim rp

To display information about the RPs for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim rp** command.

```
show ip pim rp [group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	(Optional) Group address.
<i>vrf</i>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM RPs:

```
switch(config)# show ip pim rp
PIM RP Status Information for VRF "default"
BSR: Not Operational
Auto-RP RPA: 192.168.1.222*, next Discovery message in: 00:00:06
BSR RP Candidate policy: my_bsr_rp_candidate_policy
BSR RP policy: my_bsr_policy
Auto-RP Announce policy: my_rp_candidate_policy
Auto-RP Discovery policy: my_mapping_agent_policy

Anycast-RP 192.0.2.3 members:
 192.0.2.31

RP: 192.0.2.33, (0), uptime: 04:08:11, expires: never,
  priority: 0, RP-source: (local), group ranges:
  224.0.0.0/9
switch(config)#
```

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ip pim rp-hash

To display information about the RP-hash values for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim rp-hash** command.

```
show ip pim rp-hash group [vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	Group address for RP lookup.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM RP-hash values:

```
switch(config)# show ip pim rp-hash 224.1.1.1
PIM Hash Information for VRF "default"
PIM RPs for group 224.1.1.1, using hash-length: 0 from BSR: 10.2.0.1
  RP 10.2.0.1, hash: 1894762513 (selected)
switch(config)#
```

Related Commands	Command	Description
	<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
	<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

# show ip pim statistics

To display information about the packet counter statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim statistics** command.

```
show ip pim statistics [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information when PIM is in vPC mode.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM statistics (if PIM is not in vPC mode, the vPC statistics are not displayed):

```
switch(config)# show ip pim statistics
PIM Global Counter Statistics for VRF:default, last reset: never
  Register processing (sent/received):
    Registers: 0/0, Null registers: 0/0, Register-Stops: 0/0
    Registers received and not RP: 0
    Registers received for SSM/Bidir groups: 0/0
  BSR processing (sent/received):
    Bootstraps: 0/0, Candidate-RPs: 0/0
    BSs from non-neighbors: 0, BSs from border interfaces: 0
    BS length errors: 0, BSs which RPF failed: 0
    BSs received but not listen configured: 0
    Cand-RPs from border interfaces: 0
    Cand-RPs received but not listen configured: 0
  Auto-RP processing (sent/received):
    Auto-RP Announces: 0/0, Auto-RP Discoveries: 0/0
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```

Auto-RP RPF failed: 0, Auto-RP from border interfaces: 0
Auto-RP invalid type: 0, Auto-RP TTL expired: 0
Auto-RP received but not listen configured: 0
General errors:
Control-plane RPF failure due to no route found: 0
Data-plane RPF failure due to no route found: 0
Data-plane no multicast state found: 0
Data-plane create route state count: 2
vPC packet stats:
assert requests sent: 1
assert requests received: 1
assert request send error: 0
assert response sent: 1
assert response received: 1
assert response send error: 0
assert stop sent: 0
assert stop received: 1
assert stop send error: 0
switch(config)#

```

#### Related Commands

Command	Description
<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

# show ip pim vrf

To display information about IPv4 Protocol Independent Multicast (PIM) by virtual routing and forwarding (VRF) instance, use the **show ip pim vrf** command.

```
show ip pim vrf [vrf-name | all]
```

Syntax Description	
<i>vrf-name</i>	(Optional) VRF name.
<b>all</b>	(Optional) Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.
	5.0(2)	Information on Bidirectional Forwarding Detection (BFD) was added.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM by VRF:

```
switch(config)# show ip pim vrf
PIM Enabled VRF
VRF Name          VRF      Table          Interface      BFD Enabled
                  ID       ID              Count
default           1        0x00000001     1              Yes
```

Related Commands	Command	Description
	<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
	<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

**Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).**

## show ipv6 mld groups

To display information about the Multicast Listener Discovery (MLD) attached-group membership, use the **show ipv6 mld groups** command.

```
show ipv6 [icmp] mld groups [{source [group]} | {group [source]}] [if-type if-number] [vrf
{vrf-name | all}]
```

Syntax Description	
<b>icmp</b>	(Optional) Specifies ICMPv6 commands.
<i>source</i>	IPv6 source address.
<i>group</i>	(Optional) IPv6 multicast group address.
<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about the MLD group membership:

```
switch(config)# show ipv6 mld groups
MLD Connected Group Membership for VRF "default" - 13 total entries (*, ff13::0001)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:25/00:03:54, Last Reporter: fe80::0230:48ff:fe34:0d5b
```

## ■ show ipv6 mld groups

```

(*, ff13::0002)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:21/00:03:58, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0003)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:22/00:03:57, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0004)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:23/00:03:56, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0005)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:24/00:03:55, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0006)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:25/00:03:54, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0007)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:27/00:03:52, Last Reporter: fe80::0230:48ff:fe34:0d5b
switch(config)#

```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
<b>ip pim event-history</b>	Configures the size of PIM event history buffers.



[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ipv6 mld local-groups

To display information about the local group membership for Multicast Listener Discovery (MLD), use the **show ipv6 mld local-groups** command.

```
show ipv6 [icmp] mld local-groups [if-type if-number] [vrf {vrf-name | all}]
```

Syntax Description		
<b>icmp</b>	(Optional)	Specifies ICMPv6 commands.
<i>if-type</i>	(Optional)	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	(Optional)	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<b>vrf</b>	(Optional)	Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>		VRF name.
<b>all</b>		Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about MLD local groups:

```
switch(config)# show ipv6 mld local-groups
MLD Locally Joined Group Membership for VRF "default"
Group  Type      Interface  Last Reported
(*, ff13::0001)
      Local      Eth2/1    00:00:55
(*, ff13::0002)
      Local      Eth2/1    00:00:46
(*, ff13::0003)
      Local      Eth2/1    00:00:54
```

## ■ show ipv6 mld local-groups

```

(*, ff13::0004)
   Local   Eth2/1   00:00:51
(*, ff13::0005)
   Local   Eth2/1   00:00:49
(*, ff13::0006)
   Local   Eth2/1   00:00:46
(*, ff13::0007)
   Local   Eth2/1   00:00:54
(*, ff13::0008)
   Local   Eth2/1   00:00:52
(*, ff13::0009)
   Local   Eth2/1   00:00:50
(*, ff13::0010)
   Local   Eth2/1   00:00:48
(*, ff14::0001)
   Local   Eth2/1   00:00:46
(*, ff1e::0001)
   Local   Eth2/1   00:00:55
(*, ff1e::0002)
   Static  Lo22     03:47:54
switch(config)#

```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip pim event-history</b>	Clears the contents of the PIM event history buffers.
<b>ip pim event-history</b>	Configures the size of PIM event history buffers.

**Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).**

## show ipv6 mroute

To display information about IPv6 multicast routes, use the **show ipv6 mroute** command.

```
show ipv6 mroute {group | {source group} | {group [source]}} [summary [software-forwarded]]
[vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	Group address for route.
<i>source</i>	Source address for route.
<b>summary</b>	(Optional) Displays route counts and packet rates.
<b>software-forwarded</b>	(Optional) Displays software-switched route counts only.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about multicast routes:

```
switch(config)# show ipv6 mroute
IPv6 Multicast Routing Table for VRF "default"

(*, ff30::/32), uptime: 1d02h, pim6 ipv6
  Incoming interface: Null, RPF nbr: 0::
  Outgoing interface list: (count: 0)

switch(config)#
```

■ `show ipv6 mroute`

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<code>show ipv6 mroute summary</code>	Displays summary information about IPv6 multicast routes.

---

[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ipv6 mroute summary

To display summary information about IPv6 multicast routes, use the **show ipv6 mroute summary** command.

```
show ipv6 mroute summary [count | software-forwarded] [vrf {vrf-name | all}]
```

```
show ipv6 mroute {group} summary [software-forwarded] [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	<b>count</b>	(Optional) Displays only route counts.
	<b>software-forwarded</b>	(Optional) Displays software-switched route counts only.
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name.
	<b>all</b>	Specifies all VRFs.
	<i>group</i>	Specifies a group address for a route.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display summary information about multicast routes:

```
switch(config)# show ipv6 mroute summary
IPv6 Multicast Routing Table for VRF "default"

Total number of routes: 1
Total number of (*,G) routes: 0
Total number of (S,G) routes: 0
Total number of (*,G-prefix) routes: 1
Group count: 0, rough average sources per group: 0.0
```

## ■ show ipv6 mroute summary

```
Group: ff30::/32, Source count: 0
Source          packets      bytes          aps    pps          bit-rate  oifs
(*,G)          0              0              0      0            0 bps     0
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

**Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).**

## show ipv6 pim df

To display information about the designated forwarders (DFs) for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim df** command.

```
show ipv6 pim df [rp-or-group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>rp-or-group</i>	(Optional) RP or group address.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM6 DFs:

```
switch(config)# show ipv6 pim df
Bidir-PIM6 Designated Forwarder Information for VRF "default"

RP Address (ordinal)  RP Metric      Group Range
0001::0001 (7)
                    [0/0]          ff00::/8

  Interface  DF Address      DF State  DF Metric  DF Uptime
* Lo1       0::             Lose      [0/0]     00:00:02
switch(config)#
```

Related Commands	Command	Description
	<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

# show ipv6 pim event-history

To display information in the IPv6 Protocol Independent Multicast (PIM6) event history buffers, use the **show ipv6 pim event-history** command.

```
show ipv6 pim event-history {errors | msgs | statistics}
```

## Syntax Description

<b>errors</b>	Displays events of type error.
<b>msgs</b>	Displays events of type msg.
<b>statistics</b>	Displays events of type statistics.

## Defaults

None

## Command Modes

Any command mode

## Supported User Roles

network-admin  
network-operator  
vdc-admin  
vdc-operator

## Command History

Release	Modification
4.1(2)	This command was introduced.

## Usage Guidelines

This command does not require a license.

## Examples

This example shows how to display information in the PIM6 msgs event history buffer:

```
switch(config)# show ipv6 pim event-history msgs
Note: PIM6 process currently not running
switch(config)#
```

## Related Commands

Command	Description
<b>clear ipv6 pim event-history</b>	Clears the contents of the PIM6 event history buffers.
<b>ipv6 pim event-history</b>	Configures the size of PIM6 event history buffers.



[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ipv6 pim group-range

To display information about IPv6 Protocol Independent Multicast (PIM6) group ranges, use the **show ipv6 pim group-range** command.

```
show ipv6 pim group-range [group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	(Optional) Group address.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM6 group ranges:

```
switch(config)# show ipv6 pim group-range
PIM6 Group-Range Configuration for VRF "default"
Group-range          Mode      RP-address          Shared-tree-only range
ff30::/32            SSM      -                   -
ff1e:abcd:def1::/96 ASM      2001:0db8:0000:abcd::0001
                                                              -
switch(config)#
```

Related Commands	Command	Description
	<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

# show ipv6 pim interface

To display information about the enabled interfaces for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim interface** command.

```
show ipv6 pim interface [brief] [vrf {vrf-name | all}]
```

```
show ipv6 pim interface if-type if-number
```

Syntax Description	
<b>brief</b>	(Optional) Specifies a brief format for display.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.
<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

Defaults	
	None

Command Modes	
	Any command mode

Supported User Roles	
	network-admin network-operator vdc-admin vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines	
	This command requires the Enterprise Services license.

Examples	
	This example shows how to display information about PIM6-enabled interfaces:

```
switch(config)# show ipv6 pim interface
PIM6 Interface Status for VRF "default"
Ethernet2/12, Interface status: protocol-down/link-down/admin-down
  IPv6 address: none
  PIM6 DR: 0::, DR's priority: ?
  PIM6 neighbor count: 0
  PIM6 hello interval: 23 secs (configured 22222 ms), next hello sent in: 00:00:08
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```

PIM6 neighbor holdtime: 81 secs
PIM6 configured DR priority: 1
PIM6 border interface: no
PIM6 GenID sent in Hellos: 0x144b4667
PIM6 Hello MD5-AH Authentication: disabled
PIM6 Neighbor policy: none configured
PIM6 Join-Prune policy: none configured
PIM6 Interface Statistics, last reset: never
  General (sent/received):
    Hellos: 0/0, JPs: 0/0, Asserts: 0/0
    Grafts: 0/0, Graft-Acks: 0/0
    DF-Offers: 0/0, DF-Winners: 0/0, DF-Backoffs: 0/0, DF-Passes: 0/0
  Errors:
    Checksum errors: 0, Invalid packet types/DF subtypes: 0/0
    Authentication failed: 0
    Packet length errors: 0, Bad version packets: 0, Packets from self: 0
    Packets from non-neighbors: 0
    JPs received on RPF-interface: 0
    (*,G) Joins received with no/wrong RP: 0/0
    (*,G)/(S,G) JPs received for SSM/Bidir groups: 0/0
    JPs policy filtered: 0
switch(config)#

```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

---

# show ipv6 pim neighbor

To display information about IPv6 Protocol Independent Multicast (PIM6) neighbors, use the **show ipv6 pim neighbor** command.

```
show ipv6 pim neighbor {[if-type if-number] | [neighbor-addr]} [vrf {vrf-name | all}]
```

Syntax Description	
<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
<i>neighbor-addr</i>	(Optional) IPv6 address of a neighbor.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM6 neighbors:

```
switch(config)# show ipv6 pim neighbor
PIM6 Neighbor Status for VRF "default"
Neighbor Address          Interface      Uptime      Expires     DR      Bidir
                          Pri
fe80::0230:48ff:fe34:0d67  Eth2/1       00:00:39   00:01:34   1      yes
  Secondary addresses:
    0001::0002
switch(config)#
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

---

# show ipv6 pim oif-list

To display information about IPv6 Protocol Independent Multicast (PIM6) interfaces for a group, use the **show ipv6 pim oif-list** command.

```
show ipv6 pim oif-list group [source] [vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	Group address.
<i>source</i>	(Optional) Source address.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display PIM6 interfaces for a group:

```
switch(config)# show ipv6 pim oif-list ff1e::0002
PIM6 OIF-List for VRF default
(*, ff1e::0002/128)
  Incoming interface: Ethernet2/2, RPF nbr 0002::0002
  Timeout interval: 45 secs left
  Oif-list (count: 2):
    Ethernet8/11, uptime: 00:01:18, pim6
    Ethernet8/11, uptime: 00:01:18, pim6
  Timeout-list (count: 0):
  Immediate-list (count: 0):
  Immediate-timeout-list (count: 0):
switch(config)#
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

---

# show ipv6 pim policy statistics jp-policy

To display information about the join-prune policy statistics for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim policy statistics j-policy** command.

**show ipv6 pim policy statistics jp-policy** *if-type if-number*

Syntax Description		
	<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM6 policy statistics:

```
switch(config)# show ipv6 pim policy statistics jp-policy ethernet 2/2
C: No. of comparisons, M: No. of matches

route-map rmap1 permit 10
  match ipv6 multicast group ffile::/128                C: 0      M: 0

Total accept count for policy: 2
Total reject count for policy: 0
switch(config)#
```

Related Commands	Command	Description
	<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.



[Send document comments to nexus7k-docfeedback@cisco.com.](mailto:nexus7k-docfeedback@cisco.com)

## show ipv6 pim policy statistics neighbor-policy

To display information about the neighbor policy statistics for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim policy statistics neighbor-policy** command.

**show ipv6 pim policy statistics neighbor-policy** *if-type if-number*

Syntax Description		
	<i>if-type</i>	Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM6 policy statistics:

```
switch(config)# show ipv6 pim policy statistics neighbor-policy ethernet 2/2
C: No. of comparisons, M: No. of matches

route-map rmap2 permit 10
  match ipv6 multicast group ff1e::/128                C: 0      M: 0

Total accept count for policy: 2
Total reject count for policy: 0
switch(config)#
```

Related Commands	Command	Description
	<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

# show ipv6 pim route

To display information about IPv6 Protocol Independent Multicast (PIM6) routes, use the **show ipv6 pim route** command.

```
show ipv6 pim route {source group | group [source]} [vrf {vrf-name | all}]
```

Syntax	Description
<i>source</i>	Source address.
<i>group</i>	Group address.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

Defaults	Description
None	

Command Modes	Description
Any command mode	

Supported User Roles	Description
network-admin network-operator vdc-admin vdc-operator	

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines	Description
	This command requires the Enterprise Services license.

Examples	Description
	This example shows how to display PIM6 routes:

```
switch(config)# show ipv6 pim route
PIM6 Routing Table for VRF "default" - 1 entries
(*, ff30::/32), expires 00:02:33
  Incoming interface: Null, RPF nbr 0::
  Oif-list:          (0) 00000000, timeout-list: (0) 00000000
  Immediate-list:   (0) 00000000, timeout-list: (0) 00000000
  Timeout-interval: 2, JP-holdtime round-up: 3
switch(config)#
```

Related Commands	Command	Description
	<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

**Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).**

## show ipv6 pim rp

To display information about IPv6 Protocol Independent Multicast (PIM) RPs, use the **show ipv6 pim rp** command.

```
show ipv6 pim rp [group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	(Optional) Group address.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM6 RPs:

```
switch(config)# show ipv6 pim rp
PIM6 RP Status Information for VRF "default"
BSR: 0::, uptime: 1d01h, expires: now,
      priority: 0, hash-length: 0
Auto-RP disabled
BSR RP Candidate policy: None
BSR RP policy: None
Auto-RP Announce policy: None
Auto-RP Discovery policy: None

RP: 2001:0db8:0000:abcd::0001, (0), uptime: 1d01h, expires: 0.000000,
    priority: 0, RP-source: (local), group ranges:
      ffile:abcd:def1::/96
switch(config)#
```

**■** show ipv6 pim rp**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

## show ipv6 pim rp-hash

To display information about the RP-hash values for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim rp-hash** command.

```
show ipv6 pim rp-hash group [vrf {vrf-name | all}]
```

Syntax Description	
<i>group</i>	Group address for the RP lookup.
<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name.
<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM6 RP-hash values:

```
switch(config)# show ipv6 pim rp-hash
PIM6 Hash Information for VRF "default"
PIM6 RPs for group ffl::0001, using hash-length: 126 from BSR: 0001::0001
  RP 0002::0001, hash: 1329585728 (selected)

show ip igmp snooping explicit-tracking
-----
switch# show ip igmp snooping explicit-tracking vlan 33
IGMPv3 Snooping Explicit-tracking information
Source/Group      Intf      Reporter      Uptime      Last-Join Expires
1.1.1.1 232.1.1.1      Eth2/1      3.3.3.3      00:01:33    00:04:27
switch(config)#
```

# show ipv6 pim statistics

To display information about the packet counter statistics for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim statistics** command.

```
show ipv6 pim statistics [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	<b>vrf</b>	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name.
	<b>all</b>	Specifies all VRFs.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles**

- network-admin
- network-operator
- vdc-admin
- vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about PIM6 statistics:

```
switch(config)# show ipv6 pim statistics
PIM6 Global Counter Statistics for VRF:default, last reset: never
  Register processing (sent/received):
    Registers: 0/0, Null registers: 0/0, Register-Stops: 0/0
    Registers received and not RP: 0
    Registers received for SSM/Bidir groups: 0/0
  BSR processing (sent/received):
    Bootstraps: 0/0, Candidate-RPs: 0/0
    BSs from non-neighbors: 0, BSs from border interfaces: 0
    BS length errors: 0, BSs which RPF failed: 0
    BSs received but not listen configured: 0
    Cand-RPs from border interfaces: 0
    Cand-RPs received but not listen configured: 0
  Auto-RP processing (sent/received):
    Auto-RP Announces: 0/0, Auto-RP Discoveries: 0/0
    Auto-RP RPF failed: 0, Auto-RP from border interfaces: 0
    Auto-RP invalid type: 0, Auto-RP TTL expired: 0
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
Auto-RP received but not listen configured: 0
General errors:
Control-plane RPF failure due to no route found: 1
Data-plane RPF failure due to no route found: 0
Data-plane no multicast state found: 0
Data-plane create route state count: 0
switch(config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

---

# show ipv6 pim vrf

To display information about IPv6 Protocol Independent Multicast (PIM6) by virtual routing and forwarding (VRF) instance, use the **show ipv6 pim vrf** command.

```
show ipv6 pim vrf [vrf-name | all]
```

Syntax Description	
<i>vrf-name</i>	(Optional) VRF name.
<b>all</b>	(Optional) Specifies all VRFs.

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin network-operator vdc-admin vdc-operator
----------------------	--

Command History	Release	Modification
	4.1(2)	This command was introduced.

Usage Guidelines	This command requires the Enterprise Services license.
------------------	--

Examples	This example shows how to display information about PIM6 by VRF:
----------	--

```
switch(config)# show ipv6 pim vrf
switch(config)#
```

Related Commands	Command	Description
	<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.



*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show routing ip multicast event-history

To display information in the IPv4 Multicast Routing Information Base (MRIB) event history buffers, use the **show routing ip multicast event-history** command.

```
show routing ip multicast event-history {cli | errors | mfdm | mfdm-stats | msgs | rib | statistics
| vrf}
```

Syntax Description		
<b>cli</b>	Displays the event history buffer of type CLI.	
<b>errors</b>	Displays the event history buffer of type errors.	
<b>mfdm</b>	Displays the event history buffer of type multicast FIB distribution (MFDM).	
<b>mfdm-stats</b>	Displays the event history buffer of type MFDM sum.	
<b>msgs</b>	Displays the event history buffer of type msgs.	
<b>rib</b>	Displays the event history buffer of type RIB.	
<b>statistics</b>	Displays information about the event history buffers.	
<b>vrf</b>	Displays the event history buffer of type virtual routing and forwarding (VRF).	

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information in the MRIB msgs event history buffer:

```
switch(config)# show routing ip multicast event-history msgs
```

```
Msg events for MRIB Process
```

- 1) Event:E\_DEBUG, length:38, at 219263 usecs after Wed Jan 7 17:16:45 2009  
[100] : nvdb: transient thread created
- 2) Event:E\_DEBUG, length:38, at 217482 usecs after Wed Jan 7 17:16:45 2009  
[100] : nvdb: create transcient thread

## show routing ip multicast event-history

```

3) Event:E_DEBUG, length:76, at 217477 usecs after Wed Jan  7 17:16:45 2009
   [100] : comp-mts-rx opc - from sap 27315 cmd mrib_internal_event_hist_command
4) Event:E_MTS_RX, length:60, at 535173 usecs after Wed Jan  7 17:16:36 2009
   [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021C74B, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x0021C749, Sync:NONE, Payloadsize:120
   Payload:
   0x0000:  01 00 00 00 04 00 01 00 00 04 00 00 00 00 00 00
5) Event:E_MTS_RX, length:60, at 675244 usecs after Wed Jan  7 17:15:47 2009
   [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021C283, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x0021C281, Sync:NONE, Payloadsize:148
   Payload:
   0x0000:  02 00 00 00 05 00 01 00 00 04 00 00 00 00 00 00
6) Event:E_MTS_RX, length:60, at 525065 usecs after Wed Jan  7 17:15:36 2009
   [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021C1F7, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x0021C1F5, Sync:NONE, Payloadsize:120
   Payload:
   0x0000:  01 00 00 00 04 00 01 00 00 04 00 00 00 00 00 00
7) Event:E_MTS_RX, length:60, at 665138 usecs after Wed Jan  7 17:14:47 2009
   [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021BCBB, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x0021BCB9, Sync:NONE, Payloadsize:148
   Payload:
   0x0000:  02 00 00 00 05 00 01 00 00 04 00 00 00 00 00 00
8) Event:E_MTS_RX, length:60, at 515080 usecs after Wed Jan  7 17:14:36 2009
   [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021BC34, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x0021BC32, Sync:NONE, Payloadsize:120
   Payload:
   0x0000:  01 00 00 00 04 00 01 00 00 04 00 00 00 00 00 00
switch(config)#

```

### Related Commands

Command	Description
<b>ip routing multicast event-history</b>	Configures the size of the IPv4 MRIB event history buffers.
<b>clear ip routing multicast event-history</b>	Clears information in the IPv4 MRIB event history buffers.

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show hardware proxy layer-3 detail

To display detail proxy Layer 3 forwarding information, use the **show hardware proxy layer-3 detail** command.

**show hardware proxy layer-3 detail**

**Syntax Description** This command has no arguments or keywords.

**Defaults** None

**Command Modes** EXEC

**SupportedUserRoles** network-admin  
vdc-admin

Command History	Release	Modification
	5.1(1)	This command was introduced.

**Usage Guidelines** This command does not require a license.

This command applies only to Cisco Nexus 7000 Series chassis that contain an F1 Series module or an M1 Series module. This command applies when you are running either FabricPath or Ethernet interfaces.

**Examples** This example shows how to display detail proxy Layer 3 forwarding information:

```
switch# show hardware proxy layer-3 detail
switch#
```

Related Commands	Command	Description
	<b>show hardware proxy layer-3 detail</b>	Displays detailed information on the proxy Layer 3 functionality.

# show routing ipv6 multicast

To display information about IPv6 multicast routes, use the **show routing ipv6 multicast** command.

```
show routing ipv6 multicast [vrf {vrf-name | all}] [{source group} | {group [source]}]
```

Syntax Description		
<b>vrf</b>	(Optional)	Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>		VRF name.
<b>all</b>		Specifies all VRFs.
<i>source</i>		Source address for routes.
<i>group</i>		Group address for routes.

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

Supported User Roles	network-admin network-operator vdc-admin vdc-operator
----------------------	--

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines	This command requires the Enterprise Services license.
------------------	--

Examples	This example shows how to display information about IPv6 multicast routes:
	<pre>switch(config)# <b>show routing ipv6 multicast</b> IPv6 Multicast Routing Table for VRF "default" switch(config)#</pre>

Related Commands	Command	Description
	<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

**Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).**

## show routing ipv6 multicast clients

To display information about IPv6 multicast routing clients, use the **show routing ipv6 multicast clients** command.

**show routing ipv6 multicast clients** [*client-name*]

<b>Syntax Description</b>	<i>client-name</i> (Optional) One of the following multicast routing client names: <ul style="list-style-type: none"> <li>• m6rib</li> <li>• icmpv6</li> <li>• ipv6</li> <li>• static</li> <li>• pim6</li> </ul>
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

<b>Examples</b>	This example shows how to display information about IPv6 multicast routing clients:
-----------------	---

```
switch(config)# show routing ipv6 multicast clients icmpv6
IPv6 Multicast Routing Client information
```

```
Client: icmpv6, client-id: 2, pid: 3742, mts-sap: 282
  Shared-memory: icmpv6, wants notifications
  Protocol is join-group owner
  Join notifications:          sent 1, fail 0, ack rcvd 1
  Prune notifications:       sent 0, fail 0, ack rcvd 0
  RPF notifications:        sent 0, fail 0, ack rcvd 0
  Delete notifications:     sent 0, fail 0, ack rcvd 0
  Clear mroute notifications: sent 0, fail 0
  Add route requests:       rcvd 0, ack sent 0, ack fail 0
```

## ■ show routing ipv6 multicast clients

```
Delete route requests:      rcvd 0, ack sent 0, ack fail 0
switch(config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show ipv6 mroute</b>	Displays information about IPv6 multicast routes.

---

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show routing ipv6 multicast event-history

To display information in the IPv6 Multicast Routing Information Base (M6RIB) event history buffers, use the **show routing ipv6 multicast event-history** command.

```
show routing ipv6 multicast event-history {cli | errors | mfdm | mfdm-stats | msgs | rib |
statistics | vrf}
```

Syntax Description		
<b>cli</b>		Displays the event history buffer of type CLI.
<b>errors</b>		Displays the event history buffer of type errors.
<b>mfdm</b>		Displays the event history buffer of type multicast FIB distribution (MFDM).
<b>mfdm-stats</b>		Displays the event history buffer of type MFDM sum.
<b>msgs</b>		Displays the event history buffer of type msgs.
<b>rib</b>		Displays the event history buffer of type RIB.
<b>statistics</b>		Displays information about the event history buffers.
<b>vrf</b>		Displays the event history buffer of type virtual routing and forwarding (VRF).

**Defaults** None

**Command Modes** Any command mode

**SupportedUserRoles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.1(2)	This command was introduced.

**Usage Guidelines** This command does not require a license.

**Examples** This example shows how to display information in the M6RIB msgs event history buffer:

```
switch(config)# show routing ipv6 multicast event-history msgs
```

```
Msg events for M6RIB Process
```

- 1) Event:E\_DEBUG, length:38, at 269000 usecs after Tue Jan 6 18:45:50 2009  
[100] : nvdb: transient thread created
- 2) Event:E\_DEBUG, length:38, at 267467 usecs after Tue Jan 6 18:45:50 2009  
[100] : nvdb: create transient thread

## show routing ipv6 multicast event-history

```

3) Event:E_DEBUG, length:76, at 267461 usecs after Tue Jan 6 18:45:50 2009
   [100] : comp-mts-rx opc - from sap 3389 cmd m6rib_internal_event_hist_command
4) Event:E_MTS_RX, length:60, at 335251 usecs after Tue Jan 6 18:45:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X00049141, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x0004913F, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
5) Event:E_MTS_RX, length:60, at 325401 usecs after Tue Jan 6 18:44:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X000489A2, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x000489A0, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
6) Event:E_MTS_RX, length:60, at 315289 usecs after Tue Jan 6 18:43:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X00048457, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x00048455, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
7) Event:E_MTS_RX, length:60, at 305189 usecs after Tue Jan 6 18:42:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X00047EFD, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x00047EFB, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
8) Event:E_MTS_RX, length:60, at 295210 usecs after Tue Jan 6 18:41:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X0004794F, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x0004794D, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
switch(config)#

```

## Related Commands

Command	Description
<b>ipv6 routing multicast event-history</b>	Configures the size of the IPv6 M6RIB event history buffers.
<b>clear ipv6 routing multicast event-history</b>	Clears information in the IPv6 M6RIB event history buffers.



***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

## show routing multicast

To display information about IPv4 multicast routes, use the **show routing multicast** command.

```
show routing [ip | ipv4] multicast [vrf {vrf-name | all}] [{source group} | {group [source]}]
```

Syntax Description		
<b>ip</b>	(Optional)	Specifies IPv4 routes.
<b>ipv4</b>	(Optional)	Specifies IPv4 routes.
<b>vrf</b>	(Optional)	Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>		VRF name.
<b>all</b>		Specifies all VRFs.
<i>source</i>		Source address for routes.
<i>group</i>		Group address for routes.

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about IPv4 multicast routes:

```
switch(config)# show routing multicast
IP Multicast Routing Table for VRF "default"

(*, 239.128.1.0/24), uptime: 1d01h, pim
  Incoming interface: Null, RPF nbr: 0.0.0.0
  Outgoing interface list: (count: 0)
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>ipv6 routing multicast event-history</b>	Configures the size of the IPv6 M6RIB event history buffers.
<b>clear ipv6 routing multicast event-history</b>	Clears information in the IPv6 M6RIB event history buffers.

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

## show routing multicast clients

To display information about IPv4 multicast routing clients, use the **show routing multicast clients** command.

```
show routing [ip | ipv4] multicast clients [client-name]
```

Syntax Description	
<b>ip</b>	(Optional) Specifies IPv4 multicast clients.
<b>ipv4</b>	(Optional) Specifies IPv4 multicast clients.
<i>client-name</i>	(Optional) One of the following multicast routing client names: <ul style="list-style-type: none"> <li>• mrib</li> <li>• igmp</li> <li>• static</li> <li>• msdp</li> <li>• ip</li> <li>• pim</li> </ul>

**Defaults** None

**Command Modes** Any command mode

**Supported User Roles** network-admin  
network-operator  
vdc-admin  
vdc-operator

Command History	Release	Modification
	4.0(1)	This command was introduced.

**Usage Guidelines** This command requires the Enterprise Services license.

**Examples** This example shows how to display information about IPv4 multicast clients:

```
switch(config)# show routing multicast clients pim
IP Multicast Routing Client information

Client: pim, client-id: 6, pid: 3982, mts-sap: 1568
Shared-memory: pim, wants notifications
Protocol is ssm owner, bidir owner, shared-only mode owner,
Join notifications:          sent 1, fail 0, ack rcvd 1
```

## ■ show routing multicast clients

```

Prune notifications:          sent 0, fail 0, ack rcvd 0
RPF notifications:          sent 0, fail 0, ack rcvd 0
Delete notifications:       sent 0, fail 0, ack rcvd 0
Clear mroute notifications: sent 0, fail 0
Add route requests:         rcvd 2, ack sent 2, ack fail 0
Delete route requests:      rcvd 1, ack sent 1, ack fail 0

```

```
switch(config)#
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>ipv6 routing multicast event-history</b>	Configures the size of the IPv6 M6RIB event history buffers.
<b>clear ipv6 routing multicast event-history</b>	Clears information in the IPv6 M6RIB event history buffers.

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show running-config igmp

To display information about the running-system configuration for IGMP, use the **show running-config igmp** command.

**show running-config igmp [all]**

<b>Syntax Description</b>	<b>all</b> (Optional) Displays configured and default information.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.1(2)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

**Examples** This example shows how to display information about the IGMP running-system configuration:

```
switch(config)# show running-config igmp
switch(config)#
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show running-config msdp</b>	Displays the information about the running-system configuration for Multicast Source Discovery Protocol

# show running-config msdp

To display information about the running-system configuration for Multicast Source Discovery Protocol (MSDP), use the **show running-config msdp** command.

**show running-config msdp [all]**

<b>Syntax Description</b>	<b>all</b> (Optional) Displays configured and default information.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

<b>Examples</b>	This example shows how to display information about the MSDP running-system configuration:
-----------------	--

```
switch(config)# show running-config msdp
version 4.0(3)
feature msdp
ip msdp originator-id loopback0
ip msdp peer 192.168.1.10 connect-source Ethernet2/11 remote-as 8
ip msdp sa-interval 88
ip msdp reconnect-interval 20
ip msdp group-limit 3 source 172.1.0.0/16
ip msdp group-limit 4000 source 192.168.1.0/24
ip msdp group-limit 4096 source 192.168.1.1/32
ip msdp flush-routes
ip msdp description 192.168.1.10 engineering peer
ip msdp keepalive 192.168.1.10 10 20
ip msdp sa-policy 192.168.1.10 my_sa_policy in
ip msdp mesh-group 192.168.1.10 my_mesh_group

switch(config)#
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

Related Commands	Command	Description
	show running-config igmp	Displays the information about the running-system configuration for IGMP

# show running-config pim

To display information about the running-system configuration for IPv4 Protocol Independent Multicast (PIM), use the **show running-config pim** command.

**show running-config pim [all]**

Syntax Description	all	(Optional) Displays configured and default information.
--------------------	-----	---

Defaults	None
----------	------

Command Modes	Any command mode
---------------	------------------

SupportedUserRoles	network-admin network-operator vdc-admin vdc-operator
--------------------	--

Command History	Release	Modification
	4.0(1)	This command was introduced.

Usage Guidelines	This command requires the Enterprise Services license.
------------------	--

Examples	This example shows how to display information about the PIM running-system configuration:
----------	---

```
switch(config)# show running-config pim
version 4.0(3)
feature pim
ip pim bsr-candidate Ethernet2/11
ip pim rp-address 192.0.2.33 group-list 224.0.0.0/9
ip pim rp-candidate Ethernet2/11 group-list 239.0.0.0/24 priority 3
ip pim auto-rp rp-candidate Ethernet2/12 group-list 239.0.0.0/24
ip pim send-rp-discovery Ethernet2/11 scope 30
ip pim log-neighbor-changes
ip pim bsr rp-candidate-policy my_bsr_rp_candidate_policy
ip pim bsr bsr-policy my_bsr_policy
ip pim auto-rp rp-candidate-policy my_rp_candidate_policy
ip pim auto-rp mapping-agent-policy my_mapping_agent_policy
ip pim ssm range 239.128.1.0/24
ip pim anycast-rp 192.0.2.3 192.0.2.31
ip pim auto-rp listen forward
ip pim state-limit 100000 reserved my_reserved_policy 40000

interface Ethernet2/11
 ip pim sparse-mode
```



***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

```
ip pim dr-priority 5
ip pim hello-authentication ah-md5 3 78c3e5487bde5df
ip pim neighbor-policy my_neighbor_policy

interface Ethernet2/12
  ip pim sparse-mode

switch(config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show startup-config pim6</b>	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

---

# show running-config pim6

To display information about the running-system configuration for IPv6 Protocol Independent Multicast (PIM6), use the **show running-config pim6** command.

**show running-config pim6** [**all**]

<b>Syntax Description</b>	<b>all</b> (Optional) Displays configured and default information.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

<b>Examples</b>	This example shows how to display information about the PIM6 running-system configuration:
-----------------	--

```
switch(config)# show running-config pim6
version 4.0(3)
feature pim6
ipv6 pim bidir-rp-limit 3
ipv6 pim rp-address 2001:0db8::abcd:0000:0000:0001 group-list ff1e:abcd:def1::/96
ipv6 pim rp-candidate Ethernet2/11 group-list ff1e:abcd:def1::/24
ipv6 pim register-policy my_register_policy
ipv6 pim ssm range ff30::/32
ipv6 pim flush-routes

interface Ethernet2/12
  ipv6 pim sparse-mode
  ipv6 pim hello-interval 2222
switch(config)#
```

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

Related Commands	Command	Description
	show startup-config pim6	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

# show startup-config igmp

To display information about the startup-system configuration for IGMP, use the **show startup-config igmp** command.

**show startup-config igmp [all]**

<b>Syntax Description</b>	<b>all</b> (Optional) Displays configured and default information.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.1(2)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

<b>Examples</b>	This example shows how to display information about the IGMP startup-system configuration:  switch(config)# <b>show startup-config igmp</b> switch(config)#
-----------------	--

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show startup-config pim6</b>	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show startup-config msdp

To display information about the startup-system configuration for Multicast Source Discovery Protocol (MSDP), use the **show startup-config msdp** command.

**show startup-config msdp [all]**

<b>Syntax Description</b>	<b>all</b> (Optional) Displays configured and default information.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

**Examples** This example shows how to display information about the startup-system configuration for MSDP:

```
switch(config)# show startup-config msdp
version 4.0(3)
feature msdp
ip msdp originator-id loopback0
ip msdp peer 192.168.1.10 connect-source Ethernet2/11 remote-as 8
ip msdp sa-interval 88
ip msdp reconnect-interval 20
ip msdp group-limit 3 source 172.1.0.0/16
ip msdp group-limit 4000 source 192.168.1.0/24
ip msdp group-limit 4096 source 192.168.1.1/32
ip msdp flush-routes
ip msdp description 192.168.1.10 engineering peer
ip msdp keepalive 192.168.1.10 10 20
ip msdp sa-policy 192.168.1.10 my_incoming_sa_policy in
switch(config)#
```

■ show startup-config msdp

Related Commands	Command	Description
	<b>show startup-config pim6</b>	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show startup-config pim

To display information about the startup-system configuration for IPv4 Protocol Independent Multicast (PIM), use the **show startup-config pim** command.

**show startup-config pim** [all]

<b>Syntax Description</b>	<b>all</b> (Optional) Displays configured and default information.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>Supported User Roles</b>	network-admin network-operator vdc-admin vdc-operator
-----------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

**Examples** This example shows how to display information about the startup-system configuration for PIM:

```
switch(config)# show startup-config pim
version 4.0(3)
feature pim
ip pim bsr-candidate Ethernet2/11
ip pim rp-address 192.0.2.33 group-list 224.0.0.0/9
ip pim rp-candidate Ethernet2/11 group-list 239.0.0.0/24 priority 3
ip pim auto-rp rp-candidate Ethernet2/12 group-list 239.0.0.0/24
ip pim send-rp-discovery Ethernet2/11 scope 30
ip pim log-neighbor-changes
ip pim bsr rp-candidate-policy my_bsr_rp_candidate_policy
ip pim bsr bsr-policy my_bsr_policy
ip pim auto-rp rp-candidate-policy my_rp_candidate_policy
ip pim auto-rp mapping-agent-policy my_mapping_agent_policy
ip pim ssm range 239.128.1.0/24
ip pim anycast-rp 192.0.2.3 192.0.2.31
ip pim auto-rp listen forward
ip pim state-limit 100000 reserved my_reserved_policy 40000

interface Ethernet2/11
 ip pim sparse-mode
```

## ■ show startup-config pim

```
ip pim dr-priority 5
ip pim hello-authentication ah-md5 3 78c3e5487bde5df
ip pim neighbor-policy my_neighbor_policy

interface Ethernet2/12
 ip pim sparse-mode

switch(config)#
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show startup-config pim6</b>	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

---



*Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).*

## show startup-config pim6

To display information about the startup-system configuration for IPv6 Protocol Independent Multicast (PIM6), use the **show startup-config pim6** command.

**show startup-config pim6** [**all**]

<b>Syntax Description</b>	<b>all</b> (Optional) Displays configured and default information.
---------------------------	--

<b>Defaults</b>	None
-----------------	------

<b>Command Modes</b>	Any command mode
----------------------	------------------

<b>SupportedUserRoles</b>	network-admin network-operator vdc-admin vdc-operator
---------------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	4.0(1)	This command was introduced.

<b>Usage Guidelines</b>	This command requires the Enterprise Services license.
-------------------------	--

**Examples** This example shows how to display information about the startup-system configuration for PIM6:

```
switch(config)# show startup-config pim6
version 4.0(3)
feature pim6
ipv6 pim bidir-rp-limit 3
ipv6 pim rp-address 2001:0db8::abcd:0000:0000:0001 group-list ff1e:abcd:def1::/96
ipv6 pim rp-candidate Ethernet2/11 group-list ff1e:abcd:def1::/24
ipv6 pim register-policy my_register_policy
ipv6 pim ssm range ff30::/32
ipv6 pim flush-routes

interface Ethernet2/12
  ipv6 pim sparse-mode
  ipv6 pim hello-interval 22222

switch(config)#
```

# show system internal xbar fabric-flow-control-info

To display the system internal information, use the **show system internal** command.

**show system internal xbar fabric-flow-control-info**

Syntax Description	
<b>xbar</b>	Displays the Xbar command.
<b>fabric-flow-control-info</b>	Displays the flow control information.

Defaults	None.
----------	-------

Command Modes	EXEC mode
---------------	-----------

SupportedUserRoles	network-admin vdc-admin
--------------------	----------------------------

Command History	Release	Modification
	5.2(1)	This command was introduced.

Usage Guidelines	None. This command does not require a license.
------------------	---

Examples	<p>This example shows how to display the system internal flow control information:</p> <pre>switch# show system internal xbar fabric-flow-control-info -----  slot   fabric-flow-control (multicast)   ----- -                                      1   enabled                                      2   disabled                                      3   enabled                                      7   enabled                                      8   disabled switch#</pre>
----------	---

Related Commands	Command	Description
	<b>hardware fabric</b> <b>flow-control multicast</b> <b>forced</b>	Configures the fabric flow control on all modules.

***Send document comments to [nexus7k-docfeedback@cisco.com](mailto:nexus7k-docfeedback@cisco.com).***

■ `show system internal xbar fabric-flow-control-info`