



Multicast Routing Commands

This chapter describes the Cisco NX-OS multicast routing commands available on Cisco Nexus 3000 Series switches.

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 | mtrace | policy |
vrf}
```

Syntax Description	cli	Clears the CLI event history buffer.
	debugs	Clears the debug event history buffer.
	events	Clears the event history buffer.
	ha	Clears the high availability (HA) event history buffer.
	igmp-internal	Clears the IGMP internal event history buffer.
	mtrace	Clears the mtrace event history buffer.
	policy	Clears the policy event history buffer.
	vrf	Clears the virtual routing and forwarding (VRF) event history buffer.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	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	Command	Description
	ip igmp event-history	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 [source] | group-prefix } [vrf { vrf-name | all | default | management }]
```

Syntax Description

*	Specifies all routes.
<i>group</i>	Group address in the format <i>A.B.C.D</i> .
<i>source</i>	(Optional) Source (S, G) route.
<i>group-prefix</i>	Group prefix in the format <i>A.B.C.D/length</i> .
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U1(1)	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 [ethernet slot/port | loopback if_number | port-channel
number[.sub_if_number]]
```

Syntax Description	Parameter	Description
	ethernet <i>slot/port</i>	(Optional) Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255, and the port number is from 1 to 128.
	loopback <i>if_number</i>	(Optional) Specifies the loopback interface. The loopback interface number is from 0 to 1023.
	port-channel <i>number</i>	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
	<i>sub_if-number</i>	(Optional) Subinterface number. The range is from 1 to 4093.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to clear IGMP statistics for an interface:

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

Related Commands	Command	Description
	show ip igmp interface	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 [source] | group-prefix } [vrf { vrf-name | all | default | management }]
```

Syntax Description		
*	Specifies all routes.	
<i>group</i>	Group address in the format <i>A.B.C.D</i> .	
<i>source</i>	(Optional) Source (S, G) route.	
<i>group-prefix</i>	Group prefix in the format <i>A.B.C.D/length</i> .	
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.	
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.	
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.	
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.	
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.	

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	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)#
```

Related Commands	Command	Description
	clear ip igmp groups	Clears IGMP-related information in the IPv4 multicast routing table.
	show ip mroute	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 { rib | igmp-snoop-internal | mfdm | mfdm-sum | vlan |
vlan-events }
```

Syntax Description	rib	Clears the unicast Routing Information Base (RIB) event history buffer.
	igmp-snoop-internal	Clears the IGMP snooping internal event history buffer.
	mfdm	Clears the multicast FIB distribution (MFDM) event history buffer.
	mfdm-sum	Clears the MFDM sum event history buffer.
	vlan	Clears the VLAN event history buffer.
	vlan-events	Clears the VLAN-events event history buffer.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	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
	ip igmp snooping event-history	Configures the size of the IGMP snooping event history buffers.

clear ip igmp snooping explicit-tracking vlan

To clear the IGMP snooping explicit host tracking information for VLANs, use the **clear ip igmp snooping explicit-tracking vlan** command.

```
clear ip igmp snooping explicit-tracking vlan vlan-id
```

Syntax Description	<i>vlan-id</i> VLAN number. The range is from 1 to 3968 and 4049 to 4093.				
Command Default	None				
Command Modes	Any command mode				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>5.0(3)U1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	5.0(3)U1(1)	This command was introduced.
Release	Modification				
5.0(3)U1(1)	This command was introduced.				
Usage Guidelines	This command does not require a license.				
Examples	<p>This example shows how to clear the explicit tracking information for VLAN 1:</p> <pre>switch# clear ip igmp snooping explicit-tracking vlan 1 switch#</pre>				
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show ip igmp snooping explicit-tracking vlan</td> <td>Displays explicit host tracking information for IGMPv3.</td> </tr> </tbody> </table>	Command	Description	show ip igmp snooping explicit-tracking vlan	Displays explicit host tracking information for IGMPv3.
Command	Description				
show ip igmp snooping explicit-tracking vlan	Displays explicit host tracking information for IGMPv3.				

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>	(Optional) VLAN number. The range is from 1 to 3968 and 4049 to 4093.
all	(Optional) Applies to all VLANs.

Command Default All VLANs

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

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
	show ip igmp snooping statistics vlan	Displays IGMP snooping statistics by VLAN.

clear ip mfwd event-history

To clear the multicast forwarding (MFWD) static routes, use the **clear ip mfwd event-history** command.

```
clear ip mfwd event-history
```

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U2(1)	This command was introduced.

Examples This example shows how to clear the multicast forwarding static routes configured on the switch:

```
switch# clear ip mfwd event-history
switch#
```

Related Commands	Command	Description
	ip mfwd mstatic	Registers multicast forwarding static routes.

clear ip mroute

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

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

Syntax Description

*	Specifies all mismatched routes between the hardware and software multicast routing tables.
<i>group</i>	Multicast group address in the format <i>A.B.C.D</i> . Note Make sure that you provide an address that is not a reserved multicast address.
<i>source</i>	(Optional) Source (S, G) route.
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the multicast routing table.
default	Specifies that the default VRF entry be cleared from the multicast routing table.
management	Specifies that the management VRF entry be cleared from the multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

The **clear routing multicast** command is an alternative form of this command.

This command is used to delete routes from the multicast Forwarding Information Base (FIB). It is generally used to clear the mismatched routes in the hardware and software multicast routing tables. When routes are cleared from the multicast FIB, the individual processes (such as PIM, IGMP) that create the routes would repopulate the routes into the multicast FIB.

The **clear ip mroute *** command does not permanently delete the routes from the multicast routing table. To delete the routes permanently from the multicast routing table, use the following **clear** commands to remove the routes for each process:

- **clear ip pim route**
- **clear ip igmp groups**

This command does not require a license.

Examples

This example shows how to clear the mismatched routes in the multicast routing table:

```
switch# clear ip mroute *
```

This command does not clear mroutes permanently, Please use clear commands from all mroute owners:

Pim : clear ip pim route

IGMP: clear ip igmp groups

IP/MFWD: clear ip mfwfwd mroute

to avoid owner process from repopulating routes into multicast routing table.

For further information regarding this behavior please check documentation.

```
switch#
```

Related Commands

Command	Description
clear ip pim route	Clears the routes specific to Protocol Independent Multicast (PIM) for IPv4.
clear ip igmp groups	Clears the IGMP-related information in the IPv4 multicast routing table.
clear routing multicast	Clears the multicast routing table.
show ip mroute	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.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services 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
	ip msdp event-history	Configures the size of the MSDP event history buffers.
	show ip msdp event-history	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 | default | management}]
```

Syntax Description	
<i>peer-address</i>	IP address of the MSDP peer.
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
default	Specifies that the default VRF entry be cleared from the multicast routing table.
management	Specifies that the management VRF entry be cleared from the multicast routing table.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base 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 | default | management}]
```

Syntax Description

<i>peer-address</i>	IP address of the MSDP peer for the SA policy.
in	Specifies the input policy.
out	Specifies the output policy.
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
default	(Optional) Specifies that the default VRF entry be cleared from the multicast routing table.
management	(Optional) Specifies that the management VRF entry be cleared from the multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command requires the LAN Base 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
show ip msdp peer	Displays information about MSDP peers.

clear ip msdp route

To clear routes that match 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 | group-prefix } [vrf { vrf-name | all | default | management }]
```

Syntax Description		
*	Specifies all sources for the group from the SA cache.	
<i>group</i>	Group address in the format <i>A.B.C.D</i> .	
<i>group-prefix</i>	Group prefix in the format <i>A.B.C.D/length</i> .	
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.	
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.	
all	Specifies that all VRF entries be cleared from the SA-cache.	
default	Specifies that the default VRF entry be cleared from the SA-cache.	
management	Specifies that the management VRF entry be cleared from the SA-cache.	

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

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

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

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

Related Commands	Command	Description
	clear ip msdp sa-cache	Clears the MSDP SA cache.

clear ip msdp sa-cache

To clear routes that match 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 | group-prefix } [vrf { vrf-name | all | default | management }]
```

Syntax Description		
*	Specifies all sources for the group from the SA cache.	
<i>group</i>	Group address in the format <i>A.B.C.D</i> .	
<i>group-prefix</i>	Group prefix in the format <i>A.B.C.D/length</i> .	
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.	
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.	
all	Specifies that all VRF entries be cleared from the SA-cache.	
default	Specifies that the default VRF entry be cleared from the SA-cache.	
management	Specifies that the management VRF entry be cleared from the SA-cache.	

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

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

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

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

Related Commands	Command	Description
	clear ip msdp route	Clears the MSDP SA cache.
	show ip msdp sa-cache	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* | **default** | **management**]

Syntax Description

<i>peer-address</i>	(Optional) IP address of the MSDP peer.
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
default	(Optional) Specifies that the default VRF entry be cleared from the multicast routing table.
management	(Optional) Specifies that the management VRF entry be cleared from the multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command requires the LAN Base 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
show ip msdp peer	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.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services 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
	ip pim event-history	Configures the size of the PIM event history buffers.
	show ip pim event-history	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 [ethernet slot/port | port-channel
channel-number[.sub_if-number] | vlan vlan-id]
```

Syntax Description	Parameter	Description
	ethernet <i>slot/port</i>	(Optional) Specifies the Ethernet interface. The slot number is from 1 to 255, and the port number is from 1 to 128.
	port-channel <i>number</i>	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
	<i>sub_if-number</i>	(Optional) Subinterface number. The range is from 1 to 4093.
	vlan <i>vlan-id</i>	(Optional) Specifies the VLAN. The range is from 1 to 4094.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base 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} {ethernet slot/port | port-channel
channel-number[.sub_if-number] | vlan vlan-id}
```

```
clear ip pim policy statistics register-policy [vrf {vrf-name | all | default | management}]
```

Syntax Description

jp-policy	Specifies statistics for the join-prune policy.
neighbor-policy	Specifies statistics for the neighbor policy.
ethernet <i>slot/port</i>	Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255, and the port number is from 1 to 128.
port-channel <i>number</i>	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
<i>sub_if-number</i>	(Optional) Subinterface number. The range is from 1 to 4093.
vlan	Specifies the VLAN.
<i>vlan-id</i>	VLAN number. The range is from 1 to 4094.
register-policy	Specifies statistics for the register policy.
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command requires the LAN Base 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 (PIM) for IPv4, use the **clear ip pim route** command.

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

Syntax Description	
*	Specifies all routes.
<i>group</i>	Group address in the format <i>A.B.C.D</i> .
<i>source</i>	(Optional) Source (S, G) route.
<i>group-prefix</i>	Group prefix in the format <i>A.B.C.D/length</i> .
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the multicast routing table.
default	Specifies that the default VRF entry be cleared from the multicast routing table.
management	Specifies that the management VRF entry be cleared from the multicast routing table.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services license.

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

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

Related Commands	Command	Description
	show ip pim route	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 | default | management}]
```

Syntax Description	Parameter	Description
	vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.
	<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
	all	Specifies that all VRF entries be cleared from the multicast routing table.
	default	Specifies that the default VRF entry be cleared from the multicast routing table.
	management	Specifies that the management VRF entry be cleared from the multicast routing table.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services license.

Examples This example shows how to clear PIM statistics counters:

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

Related Commands	Command	Description
	show ip pim statistics	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-debug | mfdm-events | mfdm-stats | rib |
vrf}
```

Syntax Description

cli	Clears the CLI event history buffer.
mfdm-debug	Clears the multicast FIB distribution (MFDM) debug history buffer.
mfdm-events	Clears the MFDM events history buffer.
mfdm-stats	Clears the MFDM sum event history buffer.
rib	Clears the RIB event history buffer.
vrf	Clears the virtual routing and forwarding (VRF) event history buffer.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U1(1)	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
ip routing multicast event-history	Configures the size of the IPv4 MRIB event history buffers.
show routing ip multicast event-history	Displays information in the IPv4 MRIB event history buffers.

clear routing multicast

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

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

Syntax Description

ip	(Optional) Clears IP commands.
ipv4	(Optional) Clears IPv4 commands.
*	Specifies all routes.
<i>group</i>	Group address in the format <i>A.B.C.D</i> .
<i>source</i>	(Optional) Source (S, G) route.
<i>group-prefix</i>	Group prefix in the format <i>A.B.C.D/length</i> .
vrf	(Optional) Clears the virtual routing and forwarding (VRF) instance information.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U1(1)	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

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

feature msdp

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

feature msdp

no feature msdp

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Global configuration mode

Command History	Release	Modified
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines You must enable the MSDP feature before you can configure MSDP. This command requires the LAN Base Services license.

Examples This example shows how to enable a MSDP configuration:

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

Related Commands	Command	Description
	show running-configuration msdp	Displays the MSDP running configuration information.
	show feature	Displays the status of features on a switch.
	ip msdp peer	Configures a MSDP peer.

feature pim

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

feature pim

no feature pim

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Global configuration mode

Command History	Release	Modified
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines You must enable the PIM feature before you can configure PIM.
This command requires the LAN Base Services license.

Examples This example shows how to enable a PIM configuration:

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

Related Commands	Command	Description
	show running-configuration pim	Displays the PIM running configuration information.
	show feature	Displays the status of features on a switch.
	ip pim sparse-mode	Enables IPv4 PIM sparse mode on an interface.

hardware profile multicast max-limit

To set the maximum number of entries in the multicast routing table, use the **hardware profile multicast max-limit** command.

hardware profile multicast max-limit *max-entries*

Syntax Description	<i>max-entries</i>	Maximum number of entries in the multicast routing table. The range is from 0 to 4000.
---------------------------	--------------------	--

Command Default	None
------------------------	------

Command Modes	Global configuration mode
----------------------	---------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Examples	<p>This example shows how to set the maximum number of entries in the multicast routing table to 3000:</p> <pre>switch(config)# hardware profile multicast max-limit 3000 Warning!!: The multicast and /32 unicast route limits have been changed. Any route exceeding the limit may get dropped. switch(config)#</pre>
-----------------	---

Related Commands	Command	Description
	show hardware profile status	Displays information about the multicast routing table limits.

hardware profile multicast prefer-source-tree

To prevent duplication of packets during a switchover from the rendezvous point tree (RPT) to the shortest path tree (SPT), use the **hardware profile multicast prefer-source-tree** command. To allow duplication of packets, use the **no** form of this command.

hardware profile multicast prefer-source-tree

no hardware profile multicast prefer-source-tree

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(2)	This command was introduced.

Usage Guidelines Use this command to ensure that there are no duplicate packets in the hardware when the transition from RPT to SPT is in progress.



Note

When you use this command to prevent duplication of packets during a RPT to SPT switchover, the switch supports source (S, G) route injections at a rate of only 500 routes every two minutes. The multicast routing table must have 500 entries free for source (S, G) routes.

Examples This example shows how to prevent duplication of packets during a RPT to SPT switchover:

```
switch# configure terminal
switch(config)# hardware profile multicast prefer-source-tree
switch(config)#
```

Related Commands	Command	Description
	show hardware profile status	Displays information about the multicast routing table limits.

hardware profile multicast soak-interval

To set the interval for multicast routes to be programmed into the hardware, use the **hardware profile multicast soak-interval** command.



Note Beginning in Release 7.0(3)I2(1), the **hardware profile multicast soak-interval** command is no longer necessary and has been removed.

soak-interval

Syntax Description

soak-interval Interval after which the multicast routes are programmed into the hardware. The range is from 50 milliseconds to 2 seconds. The default value of this interval is 1 second.

Use a lower interval for low multicast route creation or deletion requests per second. A lower interval enables the multicast routes to be programmed faster when the rate of multicast creations requests is low. When the number of multicast route creation requests is high, you can use a higher interval to stagger the programming of these routes into the hardware.

Command Default

1 second

Command Modes

Global configuration mode

Command History

Release	Modification
7.0(3)I2(1)	This command has been removed.
6.0(2)U3(2)	This command was introduced.

Usage Guidelines

When the Cisco Nexus 3000 Series switch has high multicast route creation or deletion rates (for example, too many IGMP join or leave requests), the switch cannot program the multicast routes into the hardware as fast as the requests are made. To resolve this problem, you can now configure an interval after which multicast routes are programmed into the hardware.

- When you have very low multicast route creations or deletions per second, configure a low interval (up to 50 milliseconds). A low interval enables the hardware to be programmed faster than it would be by using the default interval of 1 second.
- When you have very high multicast route creations or deletions per second, configure a high interval (up to 2 seconds). A high interval enables the hardware to be programmed over a longer period of time without dropping the requests.

Examples

This example shows how to set the interval for multicast routes to be programmed into the hardware to 2 seconds:

hardware profile multicast soak-interval

```
switch(config)# 2  
switch(config)#
```

Related Commands

Command	Description
show hardware profile status	Displays information about the multicast routing table limits.

hardware profile multicast syslog-threshold

To configure the syslog threshold for the multicast route table so that a syslog message is generated when the table capacity reaches the specified percentage, use the **hardware profile multicast syslog-threshold** command. To reset the value to the default, use the **no** form of this command.

hardware profile multicast syslog-threshold *percentage*

no hardware profile multicast syslog-threshold

Syntax Description	<i>percentage</i>	Percentage of table capacity. The range is a number from 1 to 100. The default value is 90 percent.
---------------------------	-------------------	---

Defaults	The multicast route table threshold is 50 percent.
-----------------	--

Command Modes	Global configuration mode
----------------------	---------------------------

Command History	Release	Modification
	5.0(3)U3(2)	This command was introduced.

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

Examples	This example shows how to set the syslog threshold to 20 percent for the multicast route table:
-----------------	---

```
switch# configure terminal
switch(config)# hardware profile multicast syslog-threshold 20
switch(config)#
```

Related Commands	Command	Description
	copy running-config startup config	Copies the running configuration to the startup configuration file.
	show running-config	Displays the information for the running configuration.

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*]

Syntax Description

<i>policy-name</i>	Route-map policy name. The route map name can be a maximum of 100 alphanumeric characters.
--------------------	--

Command Default

Disabled

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

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

This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

Examples

This example shows how to enable a route-map policy:

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

Related Commands

Command	Description
show ip igmp interface	Displays IGMP information about the interface.

ip igmp any-query-destination

To configure the switch to allow any destination IP address for IGMP general queries, use the **ip igmp any-query-destination** command. To reset the query to the default, use the **no** form of this command.

ip igmp any-query-destination

no ip igmp any-query-destination

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Examples This example shows how to configure any destination IP address for IGMP general queries:

```
switch# configure terminal
switch(config)# ip igmp any-query-destination
switch(config)#
```

Related Commands	Command	Description
	show running-config igmp	Displays information about the running-system configuration for IGMP.

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.

Command Default Enabled

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	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
switch(config)#
```

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

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

Related Commands	Command	Description
	show running-config igmp	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 | 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 | group-debugs | group-events | ha | igmp-internal |  
interface-debugs | interface-events | msgs | mtrace | policy | statistics | vrf } size buffer-size
```

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

Command Default All history buffers are allocated as small.

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

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
```

■ ip igmp event-history

```
switch(config)#
```

Related Commands

Command	Description
clear ip igmp event-history	Clears the contents of IGMP event history buffers.
show ip igmp event-history	Displays information in the IGMP event history buffers.
show running-config igmp	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.

Command Default The routes are not flushed.

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(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
switch(config)#
```

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

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

Related Commands	Command	Description
	show running-config	Displays information about the running-system configuration.

ip igmp global-leave-ignore-gss-mrt

To use the general Maximum Response Time (MRT) in response to an IGMP global leave message for general queries, use the **ip igmp global-leave-ignore-gss-mrt** command. To reset the query to the default, use the **no** form of this command.

ip igmp global-leave-ignore-gss-mrt

no ip igmp global-leave-ignore-gss-mrt

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(2)	This command was introduced.

Usage Guidelines When you use this command, the switch uses the configured Maximum Response Time (MRT) value in group-specific queries against a lower MRT value in response to IGMP global leave messages (IGMP leave reports to group 0.0.0.0).

This command does not require a license.

Examples This example shows how to set the MRT for IGMP general queries:

```
switch# configure terminal
switch(config)# ip igmp global-leave-ignore-gss-mrt
switch(config)#
```

Related Commands	Command	Description
	show running-config	Displays information about the running-system configuration for IGMP.
	igmp	

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*]

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

Command Default	The group membership timeout is 260 seconds.
-----------------	--

Command Modes	Interface configuration mode
---------------	------------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.
------------------	---

Examples	This example shows how to configure a group membership timeout:
----------	---

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

Related Commands	Command	Description
	show ip igmp interface	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.

Command Default The immediate leave feature is disabled.

Command Modes Interface configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	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 but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

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

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

This example shows how to disable the immediate leave feature:

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

Related Commands	Command	Description
	show ip igmp interface	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.
source <i>source</i>	(Optional) Configures a source IP address for the IGMPv3 (S,G) channel.
route-map <i>policy-name</i>	Specifies the route-map policy name that defines the group prefixes where this feature is applied. The route map name can be a maximum of 63 alphanumeric characters.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

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.

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.



Note

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



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 but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

Examples

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

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

Related Commands

Command	Description
show ip igmp interface	Displays IGMP information about the interface.

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*]

Syntax Description	<i>count</i> Query count. The range is from 1 to 5. The default is 2.				
Command Default	The query count is 2.				
Command Modes	Interface configuration mode				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>5.0(3)U1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	5.0(3)U1(1)	This command was introduced.
Release	Modification				
5.0(3)U1(1)	This command was introduced.				
Usage Guidelines	This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.				
Examples	<p>This example shows how to configure a query count:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no switchport 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 switchport switch(config-if)# no ip igmp last-member-query-count switch(config-if)#</pre>				
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show ip igmp interface</td> <td>Displays IGMP information about the interface.</td> </tr> </tbody> </table>	Command	Description	show ip igmp interface	Displays IGMP information about the interface.
Command	Description				
show ip igmp interface	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.
---------------------------	---

Command Default	The query interval is 1 second.
------------------------	---------------------------------

Command Modes	Interface configuration mode
----------------------	------------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.
-------------------------	---

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

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

Related Commands	Command	Description
	show ip igmp interface	Displays IGMP information about the interface.

ip igmp querier-timeout

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

```
ip igmp querier-timeout timeout
```

```
no ip igmp querier-timeout [timeout]
```

Syntax Description	<i>timeout</i> Timeout in seconds. The range is from 1 to 65,535. The default is 255.						
Command Default	The querier timeout is 255 seconds.						
Command Modes	Interface configuration mode						
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>5.0(3)U1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	5.0(3)U1(1)	This command was introduced.		
Release	Modification						
5.0(3)U1(1)	This command was introduced.						
Usage Guidelines	<p>The ip igmp query-timeout command is an alternative form of this command.</p> <p>This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.</p>						
Examples	<p>This example shows how to configure a querier timeout:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no switchport switch(config-if)# ip igmp querier-timeout 200 switch(config-if)#</pre> <p>This example shows how to reset a querier timeout to the default:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no switchport switch(config-if)# no ip igmp querier-timeout switch(config-if)#</pre>						
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>ip igmp query-timeout</td> <td>Configures a querier timeout.</td> </tr> <tr> <td>show ip igmp interface</td> <td>Displays IGMP information about the interface.</td> </tr> </tbody> </table>	Command	Description	ip igmp query-timeout	Configures a querier timeout.	show ip igmp interface	Displays IGMP information about the interface.
Command	Description						
ip igmp query-timeout	Configures a querier timeout.						
show ip igmp interface	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*]

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

Command Default	The query interval is 125 seconds.
------------------------	------------------------------------

Command Modes	Interface configuration mode
----------------------	------------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.
-------------------------	---

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

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

Related Commands	Command	Description
	show ip igmp interface	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*]

Syntax Description	<i>time</i>	Query maximum response time in seconds. The range is from 1 to 25. The default is 10.
Command Default	The query maximum response time is 10 seconds.	
Command Modes	Interface configuration mode	
Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.
Usage Guidelines	This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.	
Examples	<p>This example shows how to configure a query maximum response time:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no switchport switch(config-if)# ip igmp query-max-response-time 15 switch(config-if)#</pre> <p>This example shows how to reset a query maximum response time to the default:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no switchport switch(config-if)# no ip igmp query-max-response-time switch(config-if)#</pre>	
Related Commands	Command	Description
	show ip igmp interface	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*]

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

Command Default	The query timeout is 255 seconds.
------------------------	-----------------------------------

Command Modes	Interface configuration mode
----------------------	------------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	<p>The ip igmp querier-timeout command is an alternative form of this command.</p> <p>This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.</p>
-------------------------	--

Examples	This example shows how to configure a querier timeout:
-----------------	--

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

Related Commands	Command	Description
	ip igmp querier-timeout	Configures a querier timeout.
	show ip igmp interface	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.

Command Default Disabled

Command Modes Interface configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

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

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

Related Commands	Command	Description
	show ip igmp interface	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*]

Syntax Description	<i>policy-name</i> Route-map policy name. The route name is a maximum of 100 alphanumeric characters.
---------------------------	---

Command Default	Disabled
------------------------	----------

Command Modes	Interface configuration mode
----------------------	------------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You can configure the route map to prevent 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 does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

Examples

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

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

Related Commands	Command	Description
	show ip igmp interface	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*]

Syntax Description	<i>count</i>	Robustness count. The range is from 1 to 7. The default is 2.			
Command Default	The robustness count is 2.				
Command Modes	Interface configuration mode				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>5.0(3)U1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	5.0(3)U1(1)	This command was introduced.
Release	Modification				
5.0(3)U1(1)	This command was introduced.				
Usage Guidelines	This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.				
Examples	<p>This example shows how to configure a robustness count:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no switchport 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 switchport switch(config-if)# no ip igmp robustness-variable switch(config-if)#</pre>				
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show ip igmp interface</td> <td>Displays IGMP information about the interface.</td> </tr> </tbody> </table>	Command	Description	show ip igmp interface	Displays IGMP information about the interface.
Command	Description				
show ip igmp interface	Displays IGMP information about the interface.				

ip igmp snooping (Global)

To enable IGMP snooping, use the **ip igmp snooping** command. To disable IGMP snooping, use the **no** form of this command.

ip igmp snooping

no ip igmp snooping

Syntax Description This command has no arguments or keywords.

Command Default Enabled

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines If the global configuration of IGMP snooping is disabled, then 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:

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

This example shows how to disable IGMP snooping:

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

Related Commands	Command	Description
	show ip igmp snooping	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.



Note This command has two new sub-options beginning in Release 7.0(3)I2(1):
group-timeout - Configures the group membership timeout in all VLANs/BDs.
max-gq-miss - Configures the general query miss count.

ip igmp snooping

no ip igmp snooping

Syntax Description This command has no arguments or keywords.

Command Default Enabled

Command Modes VLAN configuration mode

Release	Modification
7.0(3)I2(1)	New sub-options were added.
5.0(3)U1(1)	This command was introduced.

Usage Guidelines If the global configuration of IGMP snooping is disabled, then 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 on a VLAN interface:

```
switch(config)# vlan 1
switch(config-vlan)# ip igmp snooping
switch(config-vlan)#
```

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

```
switch(config)# vlan 1
switch(config-vlan)# no ip igmp snooping
switch(config-vlan)#
```

Command	Description
show ip igmp snooping	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 {igmp-snoop-internal | mfdm | mfdm-sum | rib | vlan |
vlan-events | vpc} size buffer-size
```

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

Syntax Description		
igmp-snoop-internal		Clears the IGMP snooping internal event history buffer.
mfdm		Clears the multicast FIB distribution (MFDM) event history buffer.
mfdm-sum		Clears the MFDM sum event history buffer.
rib		Clears the Routing Information Base (RIB) event history buffer.
vlan		Clears the VLAN event history buffer.
vlan-events		Clears the VLAN-event event history buffer.
vpc		Clears the virtual port channel (vPC) event history buffer.
size		Specifies the size of the buffer to allocate.
<i>buffer-size</i>		Buffer size that is one of the following values: disabled , large , medium , or small . The default buffer size is small .

Command Default All history buffers are allocated as small.

Command Modes Global configuration mode
Switch profile configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.
	5.0(3)U2(1)	Support was added to configure IGMP snooping event history buffers in a switch profile.
		The vpc keyword was added.

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)#
```


This example shows how to configure the IGMP snooping vPC event history buffer size in a switch profile:

```
switch# configure sync
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# ip igmp snooping event-history vpc size medium
switch(config-sync-sp)#
```

Related Commands

Command	Description
clear ip igmp snooping event-history	Clears the contents of the IGMP snooping event history buffers.
show ip igmp snooping event-history	Displays information in the IGMP snooping event history buffers.
show running-config igmp	Displays information about the IGMP running-system configuration.
show switch-profile	Displays information about the switch profile and the configuration revision.
switch-profile	Creates and configures a switch profile.

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.

Command Default Enabled

Command Modes VLAN configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

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

```
switch(config)# vlan 1
switch(config-vlan)# ip igmp snooping explicit-tracking
switch(config-vlan)#
```

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

```
switch(config)# vlan 1
switch(config-vlan)# no ip igmp snooping explicit-tracking
switch(config-vlan)#
```

Related Commands	Command	Description
	show ip igmp snooping	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.

Command Default Disabled

Command Modes VLAN configuration mode

Command History	Release	Modification
	5.0(3)U1(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.

This command does not require a license.

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

```
switch(config)# vlan 1
switch(config-vlan)# ip igmp snooping fast-leave
switch(config-vlan)#
```

This example shows how to disable support of IGMPv2 hosts:

```
switch(config)# vlan 1
switch(config-vlan)# no ip igmp snooping fast-leave
switch(config-vlan)#
```

Related Commands	Command	Description
	show ip igmp snooping	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*]

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

Command Default	The query interval is 1.
------------------------	--------------------------

Command Modes	VLAN configuration mode
----------------------	-------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

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

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

```
switch(config)# vlan 1
switch(config-vlan)# ip igmp snooping last-member-query-interval 3
switch(config-vlan)#
```

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

```
switch(config)# vlan 1
switch(config-vlan)# no ip igmp snooping last-member-query-interval
switch(config-vlan)#
```

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.

Command Default Enabled

Command Modes Global configuration mode
VLAN configuration mode
Switch profile configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.
	5.0(3)U2(1)	Support was added to suppress IGMP reports from link-local groups in a switch profile.

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

This command does not require a license.

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

```
switch(config)# vlan 1
switch(config-vlan)# ip igmp snooping link-local-groups-suppression
switch(config-vlan)#
```

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

```
switch(config)# vlan 1
switch(config-vlan)# no ip igmp snooping link-local-groups-suppression
switch(config-vlan)#
```

This example shows how to enable suppression of IGMP reports from link-local groups in a switch profile:

```
switch# configure sync
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
```

ip igmp snooping link-local-groups-suppression

```
switch(config-sync-sp) # ip igmp snooping link-local-groups-suppression
switch(config-sync-sp) #
```

Related Commands

Command	Description
show ip igmp snooping	Displays IGMP snooping information.
show switch-profile	Displays information about the switch profile and the configuration revision.
switch-profile	Creates and configures a switch profile.

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 { **ethernet** *slot/port* | **port-channel** *number* [*.sub_if_number*] }

no ip igmp snooping mrouter interface { **ethernet** *slot/port* | **port-channel** *number* [*.sub_if_number*] }

Syntax Description		
ethernet <i>slot/port</i>	(Optional) Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255, and the port number is from 1 to 128.	
port-channel <i>number</i>	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.	
<i>sub_if-number</i>	(Optional) Subinterface number. The range is from 1 to 4093.	

Command Default None

Command Modes VLAN configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines The interface to the router must be in the selected VLAN.
This command does not require a license.

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

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

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

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

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

ip igmp snooping optimise-multicast-flood

To configure Optimized Multicast Flood (OMF) on all VLANs, use the **ip igmp snooping optimise-multicast-flood** command. To remove the OMF from all VLANs, use the **no** form of this command.

ip igmp snooping optimise-multicast-flood

no ip igmp snooping optimise-multicast-flood

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode
Switch profile configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.
	5.0(3)U2(1)	Support was added to configure IGMP snooping Optimized Multicast Flood in a switch profile.
	7.0(3)I2(1)	This command was removed.

Usage Guidelines This command does not require a license.
Beginning in Release 7.0(3)I2(1), this release has been removed.

Examples This example shows how to configure OMF on all VLANs:

```
switch(config)# ip igmp snooping optimise-multicast-flood
switch(config)#
```

This example shows how to remove OMF from all VLANs:

```
switch(config)# no ip igmp snooping optimise-multicast-flood
switch(config)#
```

This example shows how to configure OMF in a switch profile:

```
switch# configure sync
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# ip igmp snooping optimise-multicast-flood
switch(config-sync-sp)#
```


Related Commands	Command	Description
	show ip igmp snooping	Displays IGMP snooping information.
	show switch-profile	Displays information about the switch profile and the configuration revision.
	switch-profile	Creates and configures a switch profile.

ip igmp snooping querier

To configure a snooping querier on an interface when you do not enable Protocol Independent Multicast (PIM) because 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*]

Syntax Description

querier Querier IP address.

Command Default

None

Command Modes

VLAN configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

The querier IP address cannot be a multicast address.
This command does not require a license.

Examples

This example shows how to configure a snooping querier:

```
switch(config)# vlan 1
switch(config-vlan)# ip igmp snooping querier 192.168.0.106
switch(config-vlan)#
```

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

```
switch(config)# vlan 1
switch(config-vlan)# no ip igmp snooping querier
switch(config-vlan)#
```

Related Commands

Command	Description
show ip igmp snooping	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.

Command Default Enabled

Command Modes Global configuration mode
VLAN configuration mode
Switch profile configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.
	5.0(3)U2(1)	Support was added to configure IGMP snooping report suppression in a switch profile.

Usage Guidelines When you disable report suppression, all IGMP reports are sent as is to multicast-capable routers. This command does not require a license.

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

```
switch(config)# vlan 1
switch(config-vlan)# ip igmp snooping report-suppression
switch(config-vlan)#
```

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

```
switch(config)# vlan 1
switch(config-vlan)# no ip igmp snooping report-suppression
switch(config-vlan)#
```

This example shows how to enable limiting the membership report traffic in a switch profile:

```
switch# configure sync
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# ip igmp snooping report-suppression
switch(config-sync-sp)#
```

Related Commands	Command	Description
	show ip igmp snooping	Displays IGMP snooping information.
	show switch-profile	Displays information about the switch profile and the configuration revision.
	switch-profile	Creates and configures a switch profile.

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 {ethernet slot/port | port-channel
number[.sub_if_number]}
```

```
no ip igmp snooping static-group group [source source] interface {ethernet slot/port |
port-channel number[.sub_if_number]}
```

Syntax Description	
<i>group</i>	Group IP address.
source <i>source</i>	(Optional) Configures a static (S, G) channel for the source IP address.
interface	Specifies an interface for the static group.
ethernet <i>slot/port</i>	Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255, and the port number is from 1 to 128.
port-channel <i>number</i>	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
<i>sub_if-number</i>	(Optional) Subinterface number. The range is from 1 to 4093.

Command Default None

Command Modes VLAN configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to configure a static member of a multicast group:

```
switch(config)# vlan 1
switch(config-vlan)# ip igmp snooping static-group 230.0.0.1 interface ethernet 2/1
switch(config-vlan)#
```

This example shows how to remove a static member of a multicast group:

```
switch(config)# vlan 1
switch(config-vlan)# no ip igmp snooping static-group 230.0.0.1 interface ethernet 2/1
switch(config-vlan)#
```

■ ip igmp snooping static-group

Related Commands	Command	Description
	show ip igmp snooping	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.

Command Default Disabled

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	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
switch(config)#
```

This example shows how to remove IGMPv3 report suppression:

```
switch(config)# no ip igmp snooping v3-report-suppression
switch(config)#
```

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

ip igmp snooping syslog-threshold

To configure the syslog threshold for the IP Internet Group Management Protocol (IGMP) snooping table so that a syslog message is generated when the table capacity reaches the specified percentage, use the **ip igmp snooping syslog-threshold** command. To reset the value to the default, use the **no** form of this command.

ip igmp snooping syslog-threshold *percentage*

no ip igmp snooping syslog-threshold

Syntax Description	<i>percentage</i>	Percentage of table capacity. The range is from 1 to 100. The default value is 90 percent.
---------------------------	-------------------	--

Defaults The IP IGMP snooping table threshold is 90 percent.

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U3(2)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to set the syslog threshold to 20 percent for the IP IGMP snooping table:

```
switch# configure terminal
switch(config)# ip igmp snooping syslog-threshold 20
switch(config)#
```

Related Commands	Command	Description
	copy running-config startup config	Copies the running configuration to the startup configuration file.
	show running-config	Displays the information for the running configuration.

ip igmp snooping v3-report-suppression (switch profile)

To configure IGMPv3 report suppression in a switch profile, 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.

Command Default Disabled

Command Modes Switch profile configuration mode

Command History	Release	Modification
	5.0(3)U2(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to configure IGMPv3 report suppression in a switch profile:

```
switch# configure sync
Enter configuration commands, one per line. End with CNTL/Z.
switch(config-sync)# switch-profile s5010
Switch-Profile started, Profile ID is 1
switch(config-sync-sp)# ip igmp snooping v3-report-suppression
switch(config-sync-sp)#
```

Related Commands	Command	Description
	show ip igmp snooping	Displays IGMP snooping information.
	show switch-profile	Displays information about the switch profile and the configuration revision.
	switch-profile	Creates and configures a switch profile.

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.

Command Default Enabled

Command Modes VLAN configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines If this setting is disabled for the device, which is the default value, then 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.

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 10-20
switch(config-vlan)# ip igmp snooping v3-report-suppression
switch(config-vlan)#
```

This example shows how to remove IGMPv3 report suppression on specified VLANs:

```
switch(config)# vlan 10-20
switch(config-vlan)# no ip igmp snooping v3-report-suppression
switch(config-vlan)#
```

Related Commands	Command	Description
	show ip igmp snooping	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) Source Specific Multicast (SSM) range, see the ip pim ssm range command.
<i>source</i>	IP multicast address source.

Command Default

None

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(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  
switch(config)#
```

This example shows how to remove a translation:

```
switch(config)# no ip igmp ssm-translate 232.0.0.0/8 10.1.1.1  
switch(config)#
```

Related Commands

Command	Description
show running-config	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

count Query count. The range is from 1 to 10. The default is 2.

Command Default

The query count is 2.

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

Examples

This example shows how to configure a query count:

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

Related Commands

Command	Description
show ip igmp interface	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*]

Syntax Description	<i>interval</i> Query interval in seconds. The range is from 1 to 18,000. The default is 31.				
Command Default	The query interval is 31 seconds.				
Command Modes	Interface configuration mode				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>5.0(3)U1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	5.0(3)U1(1)	This command was introduced.
Release	Modification				
5.0(3)U1(1)	This command was introduced.				
Usage Guidelines	This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.				
Examples	<p>This example shows how to configure a startup query interval:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no switchport 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 switchport switch(config-if)# no ip igmp startup-query-interval switch(config-if)#</pre>				
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show ip igmp interface</td> <td>Displays IGMP information about the interface.</td> </tr> </tbody> </table>	Command	Description	show ip igmp interface	Displays IGMP information about the interface.
Command	Description				
show ip igmp interface	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.
reserved	(Optional) Specifies to use the route-map policy name for the reserve policy. The
<i>reserve-policy</i>	route map name can be a maximum of 100 alphanumeric characters.
<i>max-reserved</i>	
<i>max-reserved</i>	(Optional) Maximum number of (*, G) and (S, G) entries allowed on the interface.

Command Default

None

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

Examples

This example shows how to configure a state limit:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no switchport
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 switchport
switch(config-if)# no ip igmp state-limit
switch(config-if)#
```

Related Commands

Command	Description
show ip igmp interface	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	
group	Multicast group IPv4 address. If you specify only the group address, the (*, G) state is created.
source source	(Optional) Configures the source IP address for IGMPv3 and creates the (S, G) state. Note A source tree is built for the (S, G) state only if you enable IGMPv3.
route-map policy-name	Specifies the route-map policy name that defines the group prefixes where this feature is applied. The route map name can be a maximum of 63 alphanumeric characters.

Command Default None

Command Modes Interface configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines Before you use this command, make sure that you enable Protocol Independent Multicast (PIM) on the interface by using the **ip pim sparse-mode** command.

This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.

Examples This example shows how to statically bind a group to the OIF:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no switchport
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
switch(config-if)# no switchport
switch(config-if)# no ip igmp static-oif 230.0.0.0
switch(config-if)#
```

Related Commands

Command	Description
ip pim sparse-mode	Enables IPv4 PIM sparse mode on an interface.
no switchport	Configures the interface as a routed interface.
show ip igmp local-groups	Displays information about the IGMP local group membership.

ip igmp syslog-threshold

To configure the syslog threshold for the IP Internet Group Management Protocol (IGMP) table so that a syslog message is generated when the table capacity reaches the specified percentage, use the **ip igmp syslog-threshold** command. To reset the value to the default, use the **no** form of this command.

ip igmp syslog-threshold *percentage*

no ip igmp syslog-threshold

Syntax Description	<i>percentage</i>	Percentage of table capacity. The range is from 1 to 100. The default value is 90 percent.
---------------------------	-------------------	--

Defaults The IP IGMP table threshold is 90 percent.

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U3(2)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to set the syslog threshold to 20 percent for the IP IGMP table:

```
switch# configure terminal
switch(config)# ip igmp syslog-threshold 20
switch(config)#
```

Related Commands	Command	Description
	copy running-config startup config	Copies the running configuration to the startup configuration file.
	show running-config	Displays the information for the running configuration.

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*]

Syntax Description	<i>version</i>	Version number. The number is 2 or 3. The default is 2.
--------------------	----------------	---

Command Default	The version number is 2.
-----------------	--------------------------

Command Modes	Interface configuration mode
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Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command does not require a license but if you want to enable Layer 3 interfaces, you must install the LAN Base Services license.
------------------	---

Examples	This example shows how to configure the IGMP version to use on an interface:
----------	--

```
switch(config)# interface ethernet 2/2
switch(config-if)# no switchport
switch(config-if)# ip igmp version 3
switch(config-if)#
```

This example shows how to reset the IGMP version to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no switchport
switch(config-if)# no ip igmp version
switch(config-if)#
```

Related Commands	Command	Description
	show ip igmp interface	Displays IGMP information about the interface.

ip mfwd mstatic

To register multicast forwarding (MFWD) static routes, use the **ip mfwd mstatic** command. To remove the MFWD static routes, use the **no** form of this command.

ip mfwd mstatic register

no ip mfwd mstatic register

Syntax Description	register Registers the multicast static routes.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Global configuration mode
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Command History	Release	Modification
	5.0(3)U2(1)	This command was introduced.

Usage Guidelines If the switch receives multicast traffic from a source that is not attached, a (S, G) route is not created and the traffic continuously enters the CPU.

Use this command after configuring multicast reverse path forwarding (RPF) static routes to create (S, G) routes and prevent the multicast traffic from coming to the CPU. For each multicast static route, the register messages are periodically sent to the rendezvous point (RP) and the Multicast Source Discovery Protocol (MSDP) Source-Active (SA) messages are sent to the peer.

This command does not require a license.

Examples

This example shows how to register a multicast forwarding static route:

```
switch(config)# ip mroute 192.0.2.33/24 192.0.2.1
switch(config)# ip mfwd mstatic register
switch(config)#
```

This example shows how to deregister a multicast forwarding static route:

```
switch(config)# no mfwd mstatic register
switch(config)#
```

Related Commands	Command	Description
	ip mroute	Configures multicast reverse path forwarding (RPF) static routes.
	show ip mroute	Displays information about multicast routes.
	show ip igmp snooping	Displays information about IGMP snooping.

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} | {ethernet slot/port | loopback
if_number | port-channel number | vlan vlan-id}} [pref] [vrf vrf-name]
```

```
no ip mroute {ip-addr ip-mask | ip-prefix} {{next-hop | nh-prefix} | {ethernet slot/port | loopback
if_number | port-channel number | vlan vlan-id}} [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.
ethernet <i>slot/port</i>	Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255, and the port number is from 1 to 128.
loopback <i>if_number</i>	Specifies the loopback interface. The loopback interface number is from 0 to 1023.
port-channel <i>number</i>	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
vlan <i>vlan-id</i>	Specifies the VLAN interface. The range is from 1 to 4094.
<i>pref</i>	(Optional) Route preference. The range is from 1 to 255. The default is 1.
vrf <i>vrf-name</i>	(Optional) Specifies the virtual routing and forwarding (VRF) context name. The name can be any case-sensitive, alphanumeric string up to 32 characters.

Command Default

The route preference is 1.

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(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 192.0.2.33/24 192.0.2.1
switch(config)#
```

This example shows how to remove an RPF static route:

```
switch(config)# no ip mroute 192.0.2.33/24 192.0.2.1  
switch(config)#
```

Related Commands

Command	Description
show ip mroute	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.

Command Default	None
-----------------	------

Command Modes	Global configuration mode
---------------	---------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base Services license.
------------------	--

Examples	<p>This example shows how to configure an MSDP peer description:</p> <pre>switch(config)# ip msdp description 192.168.1.10 engineering peer switch(config)#</pre> <p>This example shows how to remove an MSDP peer description:</p> <pre>switch(config)# no ip msdp description 192.168.1.10 switch(config)#</pre>
----------	--

Related Commands	Command	Description
	show ip msdp peer	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		
cli		Configures the CLI event history buffer.
events		Configures the peer-events event history buffer.
msdp-internal		Configures the MSDP internal event history buffer.
routes		Configures the routes event history buffer.
tcp		Configures the TCP event history buffer.
size		Specifies the size of the buffer to allocate.
<i>buffer-size</i>		Buffer size that is one of the following values: disabled , large , medium , or small . The default buffer size is small .

Command Default All history buffers are allocated as small.

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services 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	Command	Description
	clear ip routing multicast event-history	Clears information in the IPv4 MRIB event history buffers.

Command	Description
show routing ip multicast event-history	Displays information in the IPv4 MRIB event history buffers.
show running-config msdp	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.

Command Default The routes are not flushed.

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

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

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

This command requires the LAN Base Services license.

Examples This example shows how to configure flushing routes when the MSDP process is restarted:

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

This example shows how to configure leaving routes when the MSDP process is restarted:

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

Related Commands	Command	Description
	show running-config	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.
source prefix	Specifies the prefix to match sources against.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command requires the LAN Base 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
switch(config)#
```

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
switch(config)#
```

Related Commands

Command	Description
show ip msdp sources	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.

Command Default

The keepalive interval is 60 seconds.
The keepalive timeout is 90 seconds.

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command requires the LAN Base 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
switch(config)#
```

This example shows how to reset a keepalive interval and timeout to the default:

```
switch(config)# no ip msdp keepalive 192.168.1.10
switch(config)#
```

Related Commands

Command	Description
show ip msdp peer	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 mesh-group.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command requires the LAN Base 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
switch(config)#
```

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
switch(config)#
```

Related Commands

Command	Description
show ip msdp mesh-group	Displays information about MSDP mesh groups.

ip msdp originator-id

To configure the IP address used in the rendezvous point (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.

Command Default The MSDP process uses the RP address of the local system.

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base 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
switch(config)#
```

This example shows how to reset the RP address to the default:

```
switch(config)# no ip msdp originator-id loopback0
switch(config)#
```

Related Commands	Command	Description
	show ip msdp summary	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.

Command Default	None
------------------------	------

Command Modes	Global configuration mode
----------------------	---------------------------

Command History	Release	Modification
		5.0(3)U1(1)

Usage Guidelines	This command requires the LAN Base Services license.
-------------------------	--

Examples	This example shows how to enable an MD5 password for a peer: <pre>switch(config)# ip msdp password 192.168.1.10 my_password switch(config)#</pre>
	This example shows how to disable an MD5 password for a peer: <pre>switch(config)# no ip msdp password 192.168.1.10 switch(config)#</pre>

Related Commands	Command	Description
		show ip msdp peer

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.
connect-source	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.
remote-as <i>asn</i>	(Optional) Configures a remote autonomous system (AS) number.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

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 LAN Base 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
switch(config)#
```

This example shows how to remove an MSDP peer:

```
switch(config)# no ip msdp peer 192.168.1.10
switch(config)#
```

Related Commands

Command	Description
show ip msdp summary	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*]

Syntax Description	<i>interval</i> Reconnect interval in seconds. The range is from 1 to 60. The default is 10.
---------------------------	--

Command Default	The reconnect interval is 10 seconds.
------------------------	---------------------------------------

Command Modes	Global configuration mode
----------------------	---------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base Services license.
-------------------------	--

Examples	This example shows how to configure a reconnect interval for the TCP connection:
-----------------	--

```
switch(config)# ip msdp reconnect-interval 20
switch(config)#
```

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

```
switch(config)# no ip msdp reconnect-interval
switch(config)#
```

Related Commands	Command	Description
	show ip msdp peer	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*]

Syntax Description	<i>interval</i>	SA transmission interval in seconds. The range is from from 60 to 65,535. The default is 60.
---------------------------	-----------------	--

Command Default	The SA message interval is 60 seconds.
------------------------	--

Command Modes	Global configuration mode
----------------------	---------------------------

Command History	Release	Modification
	5.0(3)U1(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 LAN Base Services license.

Examples	This example shows how to configure an SA transmission interval:
-----------------	--

```
switch(config)# ip msdp sa-interval 100
switch(config)#
```

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

```
switch(config)# no ip msdp sa-interval
switch(config)#
```

Related Commands	Command	Description
	show running-config	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	peer-address	IP address of an MSDP peer.
	limit	Number of (S, G) entries. The range is from 0 to 4294967295. The default is none.

Command Default None

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base 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
switch(config)#
```

This example shows how to reset the limit to the default:

```
switch(config)# no ip msdp sa-limit 192.168.1.10
switch(config)#
```

Related Commands	Command	Description
	show ip msdp peer	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.

Command Default Disabled

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base 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
switch(config)#
```

This example shows how to disable filtering:

```
switch(config)# no ip msdp sa-policy 192.168.1.10 my_incoming_sa_policy in
switch(config)#
```

Related Commands	Command	Description
	show ip msdp peer	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.

Command Default Disabled

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base 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
switch(config)#
```

This example shows how to disable filtering:

```
switch(config)# no ip msdp sa-policy 192.168.1.10 my_incoming_sa_policy out
switch(config)#
```

Related Commands	Command	Description
	show ip msdp peer	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*

Syntax Description	<i>peer-address</i> IP address of an MSDP peer.
---------------------------	---

Command Default	Enabled
------------------------	---------

Command Modes	Global configuration mode
----------------------	---------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base Services license.
-------------------------	--

Examples	This example shows how to disable an MSDP peer:
-----------------	---

```
switch(config)# ip msdp shutdown 192.168.1.10
switch(config)#
```

This example shows how to enable an MSDP peer:

```
switch(config)# no ip msdp shutdown 192.168.1.10
switch(config)#
```

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

ip multicast multipath

To disable automatic selection of the reverse path forwarding (RPF) interface for multicast when multiple equal cost multipath (ECMP) paths are available, use the **ip multicast multipath** command.

ip multicast multipath none

Syntax Description	none	Disables the ECMP multicast load splitting.
---------------------------	------	---

Command Default	Enabled
------------------------	---------

Command Modes	Global configuration mode
----------------------	---------------------------

Command History	Release	Modification
	5.0(3)U4(1)	This command was introduced.

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

Examples This example shows how to disable automatic selection of the RPF interface for multicast when multiple ECMP paths are available:

```
switch # configure terminal
switch(config)# ip multicast multipath none
switch(config)#
```

Related Commands	Command	Description
	clear ip pim route	Clears the routes specific to Protocol Independent Multicast (PIM) for IPv4.
	clear ip igmp groups	Clears the IGMP-related information in the IPv4 multicast routing table.
	clear routing multicast	Clears the multicast routing table.
	show ip mroute	Displays information about the multicast routing table.

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 the rendezvous point (RP) in the Anycast-RP set.

Command Default	
	None

Command Modes	
	Global configuration mode VRF configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines Each command with the same Anycast-RP address forms an Anycast-RP set. The IP addresses of rendezvous points (RPs) are used for communication with RPs in the set.

To configure PIM Anycast-RP, you must configure the static RP address that will be used as the Anycast-RP address for all routes, and then configure the peer Anycast-RP address.

This command requires the LAN Base Services license.

Examples This example shows how to configure a PIM Anycast-RP peer:

```
switch# configure terminal
switch(config)# ip pim rp-address 192.0.2.3
switch(config)# ip pim anycast-rp 192.0.2.3 192.0.2.31
switch(config)#
```

This example shows how to remove a peer:

```
switch# configure terminal
switch(config)# no ip pim anycast-rp 192.0.2.3 192.0.2.31
switch(config)#
```

Related Commands

Command	Description
ip pim rp-address	Configures an IPv4 PIM static RP address for a multicast group range.
show ip pim rp	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	listen	Specifies to listen to Auto-RP messages.
	forward	Specifies to forward Auto-RP messages.

Command Default Disabled

Command Modes Global configuration mode
VRF configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services license.

Examples This example shows how to enable listening and forwarding of Auto-RP messages:

```
switch(config)# ip pim auto-rp listen forward
switch(config)#
```

This example shows how to disable listening and forwarding of Auto-RP messages:

```
switch(config)# no ip pim auto-rp listen forward
switch(config)#
```

Related Commands	Command	Description
	show ip pim rp	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.
scope <i>ttl</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.
Note	See the ip pim border command to explicitly define a router on the edge of a PIM domain rather than using the scope argument.

Command Default

The TTL is 32.

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(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 LAN Base 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  
switch(config)#
```

This example shows how to remove the Auto-RP mapping agent configuration:

```
switch(config)# no ip pim auto-rp mapping-agent ethernet 2/1  
switch(config)#
```

Related Commands	Command	Description
	ip pim border	Configures a router to be on the edge of a PIM domain.
	ip pim send-rp-discovery	Configures a router as an Auto-RP mapping agent.
	show ip pim rp	Displays information about PIM rendezvous points (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]
```

Syntax Description

policy-name Route-map policy name.

Command Default

Disabled

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(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 LAN Base 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
switch(config)#
```

This example shows how to disable filtering:

```
switch(config)# no ip pim auto-rp mapping-agent-policy
switch(config)#
```

Related Commands

Command	Description
show ip pim rp	Displays information about PIM rendezvous points (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] }
```

```
no ip pim auto-rp rp-candidate [if-type if-number] [group-list prefix] { [scope ttl] | [interval interval] }
```

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.
group-list <i>prefix</i>	Specifies the group range used for the access list.
scope <i>ttl</i>	(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. Note See the ip pim border command to explicitly define a router on the edge of a PIM domain rather than using the scope argument.
interval <i>interval</i>	(Optional) Specifies an Auto-RP Announce message transmission interval in seconds. The range is from 1 to 65,535. The default is 60.

Command Default
The TTL is 32.
The Announce message interval is 60 seconds

Command Modes
Global configuration mode
VRF configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines
The **scope** and **interval** 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 rendezvous point (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 LAN Base 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
switch(config)#
```

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
switch(config)#
```

Related Commands

Command	Description
ip pim send-rp-announce	Configures a PIM Auto-RP candidate RP.
show ip pim interface	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]
```

Syntax Description	<i>policy-name</i> Route-map policy name.
---------------------------	---

Command Default	Disabled
------------------------	----------

Command Modes	Global configuration mode VRF configuration mode
----------------------	---

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	You can specify the rendezvous point (RP) and group addresses and whether the type is ASM with the match ip multicast command in a route-map policy. This command requires the LAN Base Services license.
-------------------------	---

Examples	This example shows how to allow the Auto-RP mapping agents to filter Auto-RP Announce messages: switch(config)# ip pim auto-rp rp-candidate-policy my_policy
-----------------	--

This example shows how to disable filtering:

```
switch(config)# no ip pim auto-rp rp-candidate-policy  
switch(config)#
```

Related Commands	Command	Description
	show ip pim rp	Displays information about PIM RPs.

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.

Command Default The interface is not on a PIM border.

Command Modes Interface configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base 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
switch(config)#
```

Related Commands	Command	Description
	show ip pim interface	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	<i>policy-name</i> Route-map policy name.				
Command Default	Disabled				
Command Modes	Global configuration mode VRF configuration mode				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>5.0(3)U1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	5.0(3)U1(1)	This command was introduced.
Release	Modification				
5.0(3)U1(1)	This command was introduced.				
Usage Guidelines	<p>You can specify which source addresses to filter messages from with the match ip multicast command in a route-map policy.</p> <p>This command requires the LAN Base Services license.</p>				
Examples	<p>This example shows how to allow the BSR client routers to filter BSR messages:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no switchport switch(config-if)# ip pim bsr bsr-policy my_bsr_policy</pre> <p>This example shows how to disable filtering:</p> <pre>switch(config)# interface ethernet 2/2 switch(config-if)# no switchport switch(config-if)# no ip pim bsr bsr-policy switch(config-if)#</pre>				
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show ip pim rp</td> <td>Displays information about PIM rendezvous points (RPs).</td> </tr> </tbody> </table>	Command	Description	show ip pim rp	Displays information about PIM rendezvous points (RPs).
Command	Description				
show ip pim rp	Displays information about PIM rendezvous points (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

bsr	(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.
hash-len <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.
priority <i>priority</i>	(Optional) Specifies the BSR priority used in BSR messages. The range is from 0 to 255. The default is 64.

Command Default

The hash mask length is 30.
The BSR priority is 64.

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(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 LAN Base 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  
switch(config)#
```

Related Commands	Command	Description
	show ip pim rp	Displays information about PIM rendezvous points (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.
listen	(Optional) Specifies to listen to BSR and Candidate-RP messages.

Command Default

Disabled

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

A router configured as either a candidate rendezvous point (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 LAN Base 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
switch(config)#
```

Related Commands

Command	Description
ip pim bsr listen	Enables listening to and forwarding of BSR messages.
show ip pim rp	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.
	forward	(Optional) Specifies to forward BSR and Candidate-RP messages.

Command Default Disabled

Command Modes Global configuration mode
VRF configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines A router configured as either a candidate rendezvous point (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 LAN Base 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
switch(config)#
```

Related Commands	Command	Description
	ip pim bsr forward	Enables listening to and forwarding of BSR messages.
	show ip pim rp	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]
```

Syntax Description

policy-name Route-map policy name.

Command Default

Disabled

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

You can specify the rendezvous point (RP) and group addresses, and whether the type is ASM with the **match ip multicast** command in a route-map policy.

This command requires the LAN Base Services license.

Examples

This example shows how to filter Candidate-RP messages:

```
switch(config)# ip pim bsr rp-candidate-policy my_bsr_rp_candidate_policy
```

This example shows how to disable message filtering:

```
switch(config)# no ip pim bsr rp-candidate-policy
switch(config)#
```

Related Commands

Command	Description
show ip pim rp	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	<i>priority</i>	Priority value. The range is from 1 to 4294967295. The default is 1.
--------------------	-----------------	--

Command Default	The DR priority is 1.
-----------------	-----------------------

Command Modes	Interface configuration mode
---------------	------------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base Services license.
------------------	--

Examples	This example shows how to configure DR priority on an interface:
----------	--

```
switch(config)# interface ethernet 2/2
switch(config-if)# no switchport
switch(config-if)# ip pim dr-priority 5
```

This example shows how to reset DR priority on an interface to the default:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no switchport
switch(config-if)# no ip pim dr-priority
switch(config-if)#
```

Related Commands	Command	Description
	show ip pim interface	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 | cli | hello | join-prune | null-register | packet |
  pim-internal | rp | vrf } size buffer-size
```

```
no ip pim event-history { assert-receive | cli | hello | join-prune | null-register | packet |
  pim-internal | rp | vrf } size buffer-size
```

Syntax Description

assert-receive	Configures the assert receive event history buffer.
cli	Configures the CLI event history buffer.
hello	Configures the hello event history buffer.
join-prune	Configures the join-prune event history buffer.
null-register	Configures the null register event history buffer.
packet	Configures the packet event history buffer.
pim-internal	Configures the PIM internal event history buffer.
rp	Configures the rendezvous point (RP) event history buffer.
vrf	Configures the virtual routing and forwarding (VRF) event history buffer.
size	Specifies the size of the buffer to allocate.
<i>buffer-size</i>	Buffer size is one of the following values: disabled , large , medium , or small . The default buffer size is small .

Command Default

All history buffers are allocated as small.

Command Modes

Any command mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command requires the LAN Base Services 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
	clear ip pim event-history	Clears information in the IPv4 PIM event history buffers.
	show ip pim event-history	Displays information in the IPv4 PIM event history buffers.
	show running-config pim	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.

Command Default The routes are not flushed.

Command Modes Global configuration mode
VRF configuration mode

Command History	Release	Modification
	5.0(3)U1(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 LAN Base Services license.

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

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

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

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

Related Commands	Command	Description
	show running-config	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

<i>auth-key</i>	MD5 authentication key. You can enter an unencrypted (cleartext) key, or one of these values followed by a space and the MD5 authentication key: <ul style="list-style-type: none"> 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.
-----------------	--

Command Default

Disabled

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(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 LAN Base 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)# no switchport
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 switchport
switch(config-if)# no ip pim hello-authentication ah-md5
switch(config-if)#
```

Related Commands	Command	Description
	show ip pim interface	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	<i>interval</i> Interval in milliseconds. The range is from 1 to 18,724,286. The default is 30000.
---------------------------	--

Command Default	The PIM hello interval is 30,000 milliseconds.
------------------------	--

Command Modes	Interface configuration mode
----------------------	------------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base 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)# no switchport
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 switchport
switch(config-if)# no ip pim hello-interval
switch(config-if)#
```

Related Commands	Command	Description
	show ip pim interface	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.
in	Specifies that the system applies a filter only for incoming messages.
out	Specifies that the system applies a filter only for outgoing messages.

Command Default

Disabled; no filter is applied for either incoming or outgoing messages.

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

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 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 keywords, that is no explicit direction, the system rejects further configurations if given with explicit direction.

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 rendezvous point (RP) addresses to filter messages with the **match ip multicast** command.

This command requires the LAN Base Services license.

Examples

This example shows how to filter PIM join-prune messages:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no switchport
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 switchport
switch(config-if)# no ip pim jp-policy
switch(config-if)#
```

Related Commands

Command	Description
show ip pim interface	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.

Command Default Disabled

Command Modes Global configuration mode
VRF configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services license.

Examples This example shows how to generate syslog message that list 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
switch(config)#
```

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.

Command Default

Forms adjacency with all neighbors.

Command Modes

Interface configuration mode

Command History

Release	Modification
5.0(3)U1(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 LAN Base 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)# no switchport
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 switchport
switch(config-if)# no ip pim neighbor-policy
switch(config-if)#
```

Related Commands

Command	Description
show ip pim interface	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.

Command Default Joins are triggered only if the OIF list is not empty.

Command Modes VRF configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines To prebuild the SPT for all known (S,G)s 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 to prebuild the SPTs and maintain the (S,G) states even when the system is not forwarding on these routes.

This command requires the LAN Base 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	Command	Description
	show ip pim context	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.

Command Default

Disabled

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(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 LAN Base 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  
switch(config)#
```

Related Commands

Command	Description
show ip pim policy statistics register-policy	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*]

Syntax Description	<i>rate</i>	Rate in packets per second. The range is from 1 to 65,535.
Command Default	None	
Command Modes	Global configuration mode	
Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.
Usage Guidelines	This command requires the LAN Base Services license.	
Examples	<p>This example shows how to configure a rate limit for PIM data registers:</p> <pre>switch(config)# ip pim register-rate-limit 1000</pre> <p>This example shows how to remove a rate limit:</p> <pre>switch(config)# no ip pim register-rate-limit switch(config)#</pre>	
Related Commands	Command	Description
	show ip pim vrf detail	Displays information about the PIM configuration.

ip pim register-source

To configure the IP source address of a register message to an interface address other than the outgoing interface address of the designated router (DR) leading toward the rendezvous point (RP), use the **ip pim register-source** command. To remove the IP source address register message configuration, use the **no** form of this command.

```
ip pim register-source [ethernet slot/port | loopback if_number | port-channel pc_number |
tunnel tunne_number | vlan vlan_number]
```

```
no ip pim register-source [ethernet slot/port | loopback if_number | port-channel pc_number |
tunnel tunne_number | vlan vlan_number]
```

Syntax Description	
ethernet <i>slot/port</i>	(Optional) Specifies the Ethernet interface. The range is from 1 to 255.
loopback <i>if_number</i>	(Optional) Specifies the virtual interface. The range is from 0 to 1023.
port-channel <i>pc_number</i>	(Optional) Specifies the port-channel number. The range is from 1 to 4096.
tunnel <i>tunnel_number</i>	(Optional) Specifies the tunnel interface. The range is from 0 to 4095.
vlan <i>vlan_number</i>	(Optional) Specifies the VLAN interface. The range is from 1 to 4094.

Command Default By default, the IP address of the outgoing interface of the DR leading toward the RP is used as the IP source address of a register message.

Command Modes VRF configuration mode

Command History	Release	Modification
	5.0(3)U4(1)	This command was introduced.

Usage Guidelines This command is required only when the IP source address of a register message is not a uniquely routed address to which the RP can send packets. This situation might occur if the source address is filtered so that packets sent to it are not be forwarded or if the source address is not unique to the network. In these cases, the replies sent from the RP to the source address fail to reach the DR, which results in Protocol Independent Multicast sparse mode (PIM-SM) protocol failures.

If no IP source address is configured or if the configured source address is not in service, the IP address of the outgoing interface of the DR leading toward the RP is used as the IP source address of the register message.

We recommend that you use a loopback interface with an IP address that is uniquely routed throughout the PIM-SM domain.

This command requires the LAN Base Services license.

Examples

This example shows how to configure the IP source address of the register message:

```
switch(config)# vrf context Enterprise
switch(config-vrf)# ip pim register-source ethernet 2/3
switch(config-vrf)#
```

This example shows how to remove the IP source address register message configuration:

```
switch(config-vrf)# no ip pim register-source ethernet 2/3
switch(config-vrf)#
```

Related Commands

Command	Description
show ip pim vrf detail	Displays information about the PIM configuration.

ip pim rp-address

To configure an IPv4 Protocol Independent Multicast (PIM) static rendezvous point (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]
```

```
no ip pim rp-address rp-address [group-list prefix | override | route-map policy-name]
```

Syntax Description		
<i>rp-address</i>	IP address of a router which is the RP for a group range.	
group-list <i>prefix</i>	(Optional) Specifies a group range for a static RP.	
override	(Optional) Specifies the RP address. The RP address overrides the dynamically learned RP addresses.	
route-map <i>policy-name</i>	(Optional) Specifies a route-map policy name.	

Command Default The group range is treated in ASM mode.

Command Modes Global configuration mode
VRF configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

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.

Customers can use this “override” provision, if they want the static RPs always to override the dynamic ones.

This command requires the LAN Base 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
```

■ ip pim rp-address

Related Commands

Command	Description
show ip pim rp	Displays information about PIM RPs.

ip pim rp-candidate

To configure the router as an IPv4 Protocol Independent Multicast (PIM) bootstrap router (BSR) rendezvous point (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 { ethernet slot/port | loopback if_number | port-channel number }
  { group-list prefix } [ priority priority ] [ interval interval ]
```

```
no ip pim [bsr] rp-candidate { ethernet slot/port | loopback if_number | port-channel number }
  { group-list prefix } [ priority priority ] [ interval interval ]
```

Syntax Description

bsr	(Optional) Specifies the BSR protocol RP-distribution configuration.
ethernet <i>slot/port</i>	(Optional) Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255, and the port number is from 1 to 128.
loopback <i>if_number</i>	(Optional) Specifies the loopback interface. The loopback interface number is from 0 to 1023.
port-channel <i>number</i>	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
group-list <i>prefix</i>	Specifies a group range handled by the RP.
priority <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.
interval <i>interval</i>	(Optional) Specifies the BSR message transmission interval in seconds. The range is from 1 to 65,535. The default is 60.

Command Default

The RP priority is 192.
The BSR message interval is 60 seconds.

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(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.



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.

This command requires the LAN Base Services license.

Examples

This example shows how to configure the router as a PIM BSR RP candidate:

```
switch(config)# ip pim rp-candidate ethernet 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
switch(config)#
```

Related Commands

Command	Description
show ip pim rp	Displays information about PIM RPs.

ip pim send-rp-announce

To configure an IPv4 Protocol Independent Multicast (PIM) Auto-RP candidate rendezvous point (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 { ethernet slot/port | loopback if_number | port-channel number }
  { group-list prefix } { [scope ttl] | [interval interval] }
```

```
no ip pim send-rp-announce [ { ethernet slot/port | loopback if_number | port-channel number }
  { group-list prefix } { [scope ttl] | [interval interval] }
```

Syntax Description

ethernet <i>slot/port</i>	(Optional) Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255, and the port number is from 1 to 128.
loopback <i>if_number</i>	(Optional) Specifies the loopback interface. The loopback interface number is from 0 to 1023.
port-channel <i>number</i>	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
group-list <i>prefix</i>	Specifies a group range handled by the RP.
scope <i>ttl</i>	(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. Note See the ip pim border command to explicitly define a router on the edge of a PIM domain rather than using the scope argument.
interval <i>interval</i>	(Optional) Specifies an Auto-RP Announce message transmission interval in seconds. The range is from 1 to 65,535. The default is 60.

Command Default

The TTL is 32.
The Auto-RP Announce message interval is 60 seconds.

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

The **scope** and **interval** 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 LAN Base 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
switch(config)#
```

Related Commands

Command	Description
ip pim auto-rp rp-candidate	Configures a PIM Auto-RP candidate RP.
show ip pim interface	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 { ethernet slot/port | loopback if_number | port-channel number }
[scope tll]
```

```
no ip pim send-rp-discovery [{ ethernet slot/port | loopback if_number | port-channel number }]
[scope tll]
```

Syntax Description

ethernet <i>slot/port</i>	Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255, and the port number is from 1 to 128.
loopback <i>if_number</i>	Specifies the loopback interface. The loopback interface number is from 0 to 1023.
port-channel <i>number</i>	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
scope <i>tll</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.
Note	See the ip pim border command to explicitly define a router on the edge of a PIM domain rather than using the scope argument.

Command Default

The TTL is 32.

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(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 LAN Base 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
switch(config)#
```

Related Commands	Command	Description
	show ip pim rp	Displays information about PIM RPs.
	ip pim auto-rp mapping-agent	Configures a router as an Auto-RP mapping agent.
	ip pim border	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

sparse	(Optional) Specifies sparse mode.
seconds	Expiry-timer interval. The range is from 181 to 57600 seconds.
sg-list route-map	(Optional) Specifies S,G values to which the timer applies. The route map name can be a maximum of 100 alphanumeric characters.

Command Default

The default expiry time is 180 seconds.
The timer applies to all (S, G) entries in the routing table.

Command Modes

VRF configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

Usage Guidelines

This command requires the LAN Base Services license.

Examples

This example shows how to configure the expiry interval to 300 seconds for all (S, G) entries:

```
switch(config)# vrf context Enterprise
switch(config-vrf)# ip pim sg-expiry-timer 300
switch(config-vrf)#
```

Related Commands

Command	Description
show ip pim context	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.

Command Default Disabled

Command Modes Interface configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services license.

Examples This example shows how to enable PIM sparse mode on an interface:

```
switch(config)# interface ethernet 2/2
switch(config-if)# no switchport
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 switchport
switch(config-if)# no ip pim
switch(config-if)#
```

Related Commands	Command	Description
	show ip pim interface	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]
```

Syntax Description

route-map-name Route-map policy name that defines the group prefixes where this feature is applied. A route-map policy name can be a maximum of 100 alphanumeric characters.

Command Default

None

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U4(1)	This command was introduced.

Usage Guidelines

You can specify up to 500 sequence lines in a route map.

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 the **ip pim spt-threshold infinity** 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_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*

Syntax Description	<i>policy-name</i> Route-map policy name that defines the group prefixes where this feature is applied.
---------------------------	---

Command Default	The SSM range is 232.0.0.0/8.
------------------------	-------------------------------

Command Modes	Global configuration mode VRF configuration mode
----------------------	---

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base Services license.
-------------------------	--

Examples	This example shows how to configure a group range for SSM:
-----------------	--

```
switch(config)# ip pim ssm policy my_ssm_policy
```

Examples	This example shows how to reset the group range to the default:
-----------------	---

```
switch(config)# no ip pim ssm policy my_ssm_policy
switch(config)#
```

Related Commands	Command	Description
	show ip pim group-range	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}
```

```
no ip pim ssm range {groups | none}
```

Syntax Description

<i>groups</i>	List of up to four group range prefixes.
none	Removes all group ranges.

Command Default

The SSM range is 232.0.0.0/8.

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

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 LAN Base 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
switch(config)#
```

Related Commands

Command	Description
show ip pim group-range	Displays information about PIM group ranges.

ip pim ssm route-map

To configure a group range policy for an Source Specific Multicast (SSM) range, use the **ip pim ssm route-map** command. To remove the SSM group range policy, use the **no** form of this command.

```
ip pim ssm route-map policy-name
```

```
no ip pim ssm route-map policy-name
```

Syntax Description	<i>policy-name</i> Route-map policy name. The name can be a maximum of 63 characters.
---------------------------	---

Command Default	None
------------------------	------

Command Modes	Global configuration mode VRF configuration mode
----------------------	---

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base Services license.
-------------------------	--

Examples	This example shows how to configure a group range policy for SSM:
-----------------	---

```
switch(config)# ip pim ssm route-map my_ssm_policy
switch(config)#
```

Related Commands	Command	Description
	show ip pim route	Displays information about IPV4 PIM routes.

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 429,496,7295. The default is no limit.
reserved	(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. The range is from 1 to 429,496,7295.

Command Default

None

Command Modes

Global configuration mode
VRF configuration mode

Command History

Release	Modification
5.0(3)U1(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 LAN Base 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
switch(config)#
```

Related Commands

Command	Description
<code>show running-config</code>	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	<i>policy-name</i> Route-map policy name that defines the group prefixes where this feature is applied.
---------------------------	---

Command Default	None
------------------------	------

Command Modes	Global configuration mode VRF configuration mode
----------------------	---

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

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.
-------------------------	--

This command requires the LAN Base 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
switch(config)#
```

Related Commands	Command	Description
	show ip pim rp	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-event | mfdm-stat | rib | vrf}
  size buffer-size
```

```
no ip routing multicast event-history {cli | mfdm-debug | mfdm-event | mfdm-stat | rib | vrf}
  size buffer-size
```

Syntax Description

cli	Configures the CLI event history buffer.
mfdm-debug	Configures the multicast FIB distribution (MFDM) debug event history buffer.
mfdm-event	Configures the multicast FIB distribution (MFDM) non-periodic events event history buffer.
mfdm-stat	Configures the MFDM sum event history buffer.
rib	Configures the RIB event history buffer.
vrf	Configures the virtual routing and forwarding (VRF) event history buffer.
size	Specifies the size of the buffer to allocate.
<i>buffer-size</i>	Buffer size that is one of the following values: disabled , large , medium , or small . The default buffer size is small .

Command Default

All history buffers are allocated as small.

Command Modes

Global configuration mode

Command History

Release	Modification
5.0(3)U1(1)	This command was introduced.

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
	clear ip routing multicast event-history	Clears information in the IPv4 MRIB event history buffers.
	show routing ip multicast event-history	Displays information in the IPv4 MRIB event history buffers.
	show running-config	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	<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.
---------------------------	------------------------	--

Command Default	The holddown period is 210 seconds.
------------------------	-------------------------------------

Command Modes	Global configuration mode
----------------------	---------------------------

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines	To display the holddown period configuration, use this command line: <pre>switch(config)# show running-config include "ip routing multicast holddown"</pre> <p>This command does not require a license.</p>
-------------------------	--

Examples	This example shows how to configure the routing holddown period: <pre>switch(config)# ip routing multicast holddown 100 switch(config)#</pre>
-----------------	--

Related Commands	Command	Description
	show running-config	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.

Command Default No software replication.

Command Modes Global configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	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
	show running-config	Displays information about the running-system configuration.

no switchport

To configure the interface as a Layer 3 Ethernet interface, use the **no switchport** command.

no switchport

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Interface configuration mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines You can configure any Ethernet port as a routed interface. When you configure an interface as a Layer 3 interface, any configuration specific to Layer 2 on this interface is deleted.

If you want to configure a Layer 3 interface for Layer 2, enter the **switchport** command. Then, if you change a Layer 2 interface to a routed interface, enter the **no switchport** command.

This command requires the LAN Base Services license.

Examples This example shows how to enable an interface as a Layer 3 routed interface:

```
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)#
```

This example shows how to configure a Layer 3 interface as a Layer 2 interface:

```
switch(config)# interface ethernet 1/5
switch(config-if)# switchport
switch(config-if)#
```

Related Commands	Command	Description
	copy running-config startup-config	Saves the running configuration to the startup configuration file.
	ip address	Sets a primary or secondary IP address for an interface.
	show interfaces	Displays interface information.

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.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services license.

Examples This example shows how to restart the MSDP process:

```
switch(config)# restart msdp
switch(config)#
```

Related Commands	Command	Description
	ip msdp flush-routes	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.

Command Default None

Command Modes Any command mode

Command History	Release	Modification
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines This command requires the LAN Base Services license.

Examples This example shows how to restart the PIM process:

```
switch(config)# restart pim
switch(config)#
```

Related Commands	Command	Description
	ip pim flush-routes	Enables flushing routes when the PIM process is restarted.