Multicast Routing Show Commands

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

show forwarding distribution ip igmp snooping

To display information about Layer 2 IGMP snooping multicast Forwarding Information Base (FIB) distribution, use the **show forwarding distribution ip igmp snooping** command.

> **show forwarding distribution ip igmp snooping** [**vlan** *vlan-id* [**group** *group-addr* [**source** *source-addr*]]]

Syntax Description

vlan *vlan-id*	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
group *group-addr*	(Optional) Specifies a group address.
source *source-addr*	(Optional) Specifies a source address.

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 display information about Layer 2 IGMP snooping multicast FIB distribution:

```
switch(config)# show forwarding distribution ip igmp snooping
```

Related Commands

Command	Description
show running-config	Displays the running configuration information.

show forwarding distribution multicast

To display information about multicast Forwarding Information Base (FIB) distribution messages, use the **show forwarding distribution multicast** command.

show forwarding distribution multicast [**messages**]

Syntax Description		
messages	(Optional) Displays message information.	

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 display information about multicast distribution messages:

```
switch(config)# show forwarding distribution multicast
Number of Multicast FIB Processes Active: 1
Slot    FIB State
  1        ACTIVE
switch(config)#
```

Related Commands

Command	Description
show running-config	Displays the running configuration information.

show forwarding distribution multicast client

To display information about the multicast Forwarding Information Base (FIB) distribution client, use the **show forwarding distribution multicast client** command.

> **show forwarding distribution multicast client**

Syntax Description   This command has no arguments or keywords.

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 display information about the multicast FIB distribution client:

```
switch# show forwarding distribution multicast client

Number of Clients Registered: 1
Client-name  Client-id  Shared Memory Name
mrib         1          mrib-mfdm
switch#
```

Related Commands

Command	Description
show running-config	Displays the running configuration information.

show forwarding distribution multicast outgoing-interface-list

To display information about the multicast Forwarding Information Base (FIB) outgoing interface (OIF) list, use the **show forwarding distribution multicast outgoing-interface-list** command.

show forwarding distribution multicast outgoing-interface-list {**L2** | **L3**} [*index*]

Syntax Description	L2	Specifies the Layer 2 OIF list.
	L3	Specifies the Layer 3 OIF list.
	index	(Optional) OIF list index.

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 display information about the multicast OIF list for Layer 3:

```
switch# show forwarding distribution multicast outgoing-interface-list L3
```

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

show forwarding distribution multicast route

To display information about the multicast Forwarding Information Base (FIB) distribution routes, use the **show forwarding distribution multicast route** command.

show forwarding distribution [**ip** | **ipv4**] **multicast route** [**table** *id* | **vrf** *vrf_name*] [[**group** {*group-addr* [*mask*] | *group-prefix*}] [**source** {*source-addr* [*source-mask*] | *source-prefix*}] | **summary**]

Syntax Description

ip	(Optional) Specifies IPV4 information.
ipv4	(Optional) Specifies IPV4 information.
table *id*	(Optional) Specifies the multicast routing table ID. The range is from 0 to 2147483647.
vrf *vrf_name*	(Optional) Specifies a virtual routing and forwarding (VRF) name. The name can be a maximum of 32 alphanumeric characters.
group	(Optional) Specifies an IPv4 multicast group.
group-addr	IPv4 multicast group address.
mask	(Optional) Mask for the group address.
group-prefix	(Optional) IPv4 multicast group prefix.
source	(Optional) Specifies an IPv4 multicast source.
source-addr	IPv4 source address.
source-mask	(Optional) Mask for the group address.
source-prefix	(Optional) IPv4 multicast source prefix.
summary	(Optional) Displays the route counts.

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 display information about all the multicast FIB distribution routes:

```
switch(config)# show forwarding distribution multicast route
IPv4 Multicast Routing Table for table-id: 1
Total number of groups: 5
Legend:
   C = Control Route
```

```
      D = Drop Route
      G = Local Group (directly connected receivers)
      O = Drop on RPF Fail
      P = Punt to supervisor
      d = Decap Route

    (*, 224.0.0.0/4), RPF Interface: NULL, flags: D
     Received Packets: 0 Bytes: 0
     Number of Outgoing Interfaces: 0
     Null Outgoing Interface List

<--Output truncated-->
switch(config)#
```

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

show forwarding multicast outgoing-interface-list

To display information about the multicast Forwarding Information Base (FIB) outgoing interface (OIF) list, use the **show forwarding multicast outgoing-interface-list** command.

show forwarding multicast outgoing-interface-list [*index*]

Syntax Description	*index*	(Optional) OIF list index. The OIF list index is from 1 to 65535.

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 display information about the multicast FIB OIF list:

```
switch# show forwarding multicast outgoing-interface-list
```

Related Commands

Command	Description
ip igmp static-oif	Binds a multicast group to the outgoing interface (OIF).
clear ip igmp interface statistics	Clears the IGMP statistics for an interface.

show forwarding multicast route

To display information about the IPv4 Forwarding Information Base (FIB) multicast routes, use the **show forwarding multicast route** command.

> **Note** Cisco NX-OS 3000 Series switches do not support per **multicast group statistics** command for the **show forward multicast route** command.

show forwarding [**vrf** {*vrf-name* | **all**}] [**ip** | **ipv4**] **multicast route** {[**group** {*group-addr* [*group-mask*] | *group-prefix*} | **source** {*source-addr* [*source-mask*] | *source-prefix*} | **module** *num* | **vrf** {*vrf-name* | **all**}] | **summary** [**vrf** {*vrf-name* | **all**}]}

Syntax Description

vrf	(Optional) Displays information for a specified virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Displays information for all VRFs.
ip	(Optional) Specifies IPv4.
ipv4	(Optional) Specifies IPv4.
group	(Optional) Specifies an IPv4 multicast group address.
group-addr	IPv4 multicast group address.
group-mask	(Optional) IPv4 multicast group address mask.
group-prefix	(Optional) IPv4 multicast group prefix.
source	(Optional) Specifies an IPv4 multicast source address.
source-addr	IPv4 multicast source address.
source-mask	IPv4 multicast source address mask.
source-prefix	IPv4 multicast source prefix.
summary	Displays route counts.

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 display information about the IPv4 multicast FIB routes:

```
switch# show forwarding multicast route
```

This example shows how to display the summary information about the IPv4 multicast FIB routes:

```
switch# show forwarding multicast route summary

IPv4 Multicast Routing Table for Context "default"
Total number of routes: 0
Total number of (*,G) routes: 0
Total number of (S,G) routes: 0
Total number of (*,G-prefix) routes: 0
Group count: 0
Prefix insert fail count: 10
switch#
```

Related Commands

Command	Description
clear ip mroute	Clears the multicast routing table.

show hardware profile status

To display the maximum entries in the multicast routing table, use the **show hardware profile status** command.

show hardware profile status

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

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

Examples   This example shows how to display the status of the multicast routing table:

```
switch# show hardware profile status
Reserved LPM Entries = 1024.
Reserved Host Entries = 4096.
Reserved Mcast Entries = 2000.
Used LPM Entries = 1.
Used Host Entries in LPM = 0.
Used Mcast Entries = 0.
Used Host Entries  in Host = 6.
switch#
```

Related Commands

Command	Description
hardware profile multicast max-limit	Sets the maximum entries for the multicast routing table.

show ip igmp event-history

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

> **show ip igmp event-history** {**clis** | **debugs** | **errors** | **events** | **ha** | **igmp-internal** | **msgs** | **mtrace** | **policy** | **statistics** | **vrf**}

Syntax Description

clis	Displays events of type CLI.
debugs	Displays events of type debug.
errors	Displays events of type error.
events	Displays events of type event.
ha	Displays events of type HA.
igmp-internal	Displays events of type IGMP internal.
msgs	Displays events of type msg.
mtrace	Displays events of type mtrace.
policy	Displays events of type policy.
statistics	Displays events of type statistics.
vrf	Displays events of type VRF.

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 display information in the IGMP HA event history buffer:

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

 ha events for IGMP process
2011 Aug 30 09:10:40.124500 igmp [4421]: : Router-port PSS entry for vlan 1 upda
ted [count 1]
2011 Aug 30 09:09:39.810392 igmp [4421]: : Router-port PSS entry for vlan 1 upda
ted [count 0]
2011 Aug 29 08:44:12.368317 igmp [4421]: : Router-port PSS entry for vlan 1 upda
ted [count 1]
2011 Aug 29 08:39:24.860388 igmp [4421]: : Router-port PSS entry for vlan 1 upda
ted [count 0]
2011 Aug 26 09:52:58.390295 igmp [4421]: : Router-port PSS entry for vlan 1 upda
```

```
ted [count 1]
<--Output truncated-->
switch(config)#
```

Related Commands	Command	Description
	clear ip igmp event-history	Clears the contents of the IGMP event history buffers.
	ip igmp event-history	Configures the size of IGMP event history buffers.

show ip igmp groups

To display information about IGMP-attached group membership, use the **show ip igmp groups** command.

show ip igmp groups [{*source* [*group*]} | {*group* [*source*]}] [**ethernet** *slot/port* | **port-channel** *channel-number*[.*sub_if-number*] | **vlan** *vlan-id*] [**vrf** {*vrf-name* | **all**}]

Syntax Description

source	Source IP address.
group	(Optional) Multicast IP address of the single group to display.
ethernet *slot/port*	(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 *number*	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	(Optional) Specifies the VLAN. The range is from 1 to 4094.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

Command Default None

Command Modes Any command mode

Command History

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

Usage Guidelines The **show ip igmp route** command is an alternative form of this command.

This command does not require a license.

Examples This example shows how to display information about the IGMP-attached group membership:

```
switch(config)# show ip igmp groups
```

Related Commands

Command	Description
show ip igmp route	Displays information about the IGMP-attached group membership.

show ip igmp interface

To display information about IGMP on interfaces, use the **show ip igmp interface** command.

> **show ip igmp interface** {**ethernet** *slot/port* | **port-channel** *channel-number*[*.sub_if-number*] | **vlan** *vlan-id*}

> **show ip igmp interface** [**brief**] [**vrf** {*vrf-name* | **all**}]

Syntax Description		
ethernet *slot/port*	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 *number*	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	Specifies the VLAN. The range is from 1 to 4094.
brief	(Optional) Displays one line status per interface.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

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

Examples   This example shows how to display information about IGMP on an interface:

```
switch# show ip igmp interface vlan 5
```

This example shows how to display information about IGMP on an interface in a brief format:

```
switch# show ip igmp interface brief
```

Related Commands

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

show ip igmp local-groups

To display information about IGMP local groups, use the **show ip igmp local-groups** command.

show ip igmp local-groups [**ethernet** *slot/port* | **port-channel** *channel-number*[*.sub_if-number*] | **vlan** *vlan-id*] [**vrf** {*vrf-name* | **all**}]

Syntax Description

ethernet *slot/port*	(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 *number*	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	(Optional) Specifies the VLAN. The range is from 1 to 4094.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

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

Examples　This example shows how to display information about IGMP local groups:

```
switch(config)# show ip igmp local-groups
```

Related Commands

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

show ip igmp route

To display information about the IGMP-attached group membership, use the **show ip igmp route** command.

show ip igmp route [{*source* [*group*]} | {*group* [*source*]}] [**ethernet** *slot/port* | **port-channel** *channel-number*[.*sub_if-number*] | **vlan** *vlan-id*] [**vrf** {*vrf-name* | **all**}]

Syntax Description

source	Source IP address.
group	(Optional) Multicast IP address of single group to display.
ethernet *slot/port*	(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 *number*	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	(Optional) Specifies the VLAN. The range is from 1 to 4094.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

Command Default   None

Command Modes   Any command mode

Command History

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

Usage Guidelines   The **show ip igmp groups** command is an alternative form of this command.

This command does not require a license.

Examples   This example shows how to display information about the IGMP-attached group membership:

```
switch# show ip igmp route
```

Related Commands

Command	Description
show ip igmp groups	Displays information about the IGMP-attached group membership.

show ip igmp snooping

To display information about IGMP snooping, use the **show ip igmp snooping** command.

show ip igmp snooping [**vlan** *vlan-id*]

Syntax Description	**vlan** *vlan-id* (Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093. The default is all VLANs.

Command Default   Displays 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 display information about IGMP snooping information on a switch that runs Cisco NX-OS Release 5.0(3)U2(1) and shows the status of multicast optimization on a virtual Port Channel (vPC):

```
switch# show ip igmp snooping
Global IGMP Snooping Information:
  IGMP Snooping enabled
  Optimised Multicast Flood (OMF) disabled
  IGMPv1/v2 Report Suppression enabled
  IGMPv3 Report Suppression disabled
  Link Local Groups Suppression enabled
  VPC Multicast optimization disabled

IGMP Snooping information for vlan 1
  IGMP snooping enabled
  Optimised Multicast Flood (OMF) disabled
  IGMP querier present, address: 10.1.1.7, version: 2, interface Ethernet1/13
  Switch-querier disabled
  IGMPv3 Explicit tracking enabled
  IGMPv2 Fast leave disabled
  IGMPv1/v2 Report suppression enabled
  IGMPv3 Report suppression disabled
  Link Local Groups suppression enabled
  Router port detection using PIM Hellos, IGMP Queries
  Number of router-ports: 1
  Number of groups: 0
  Active ports:
    Eth1/11     Eth1/13
switch#
```

This example shows how to display information about IGMP snooping for a VLAN:

```
switch# show ip igmp snooping vlan 1
IGMP Snooping information for vlan 1
  IGMP snooping enabled
  Optimised Multicast Flood (OMF) disabled
  IGMP querier present, address: 10.1.1.7, version: 2, interface Ethernet1/13
  Switch-querier disabled
  IGMPv3 Explicit tracking enabled
  IGMPv2 Fast leave disabled
  IGMPv1/v2 Report suppression enabled
  IGMPv3 Report suppression disabled
  Link Local Groups suppression enabled
  Router port detection using PIM Hellos, IGMP Queries
  Number of router-ports: 1
  Number of groups: 0
  Active ports:
    Eth1/11     Eth1/13
switch#
```

Related Commands	Command	Description
	ip mfwd mstatic	Registers IP multicast forwarding (MFWD) static routes.
	ip igmp snooping (VLAN)	Enables IGMP snooping on specified VLAN interfaces.

show ip igmp snooping event-history

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

> **show ip igmp snooping event-history** {**igmp-snoop-internal** | **mfdm** | **mfdm-sum** | **vlan** | **vlan-events**}

Syntax Description

igmp-snoop-internal	Displays the event history buffer of type IGMP snooping internal.
mfdm	Displays the event history buffer of type multicast FIB distribution (MFDM).
mfdm-sum	Displays the event history buffer of type MFDM sum.
vlan	Displays the event history buffer of type VLAN.
vlan-events	Displays the event history buffer of type VLAN events.

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 display information in the IGMP snooping VLAN event history buffer:

```
switch# show ip igmp snooping event-history vlan

 vlan Events for IGMP Snoop process
2011 Sep  2 08:23:06.508225 igmp [4421]: : igmp_cl_output_l2: Before IP api ...
2011 Sep  2 08:23:06.508223 igmp [4421]: : igmp_cl_output_l2: ...
2011 Sep  2 08:23:06.508220 igmp [4421]: : Flooding the packet to <vlan 1> (iif
Ethernet1/11)
2011 Sep  2 08:23:06.508216 igmp [4421]: : Received a v2 leave on Ethernet1/11 f
or group 0.0.0.0
2011 Sep  2 08:23:06.508169 igmp [4421]: : Process a valid IGMP packet
2011 Sep  2 08:23:04.880614 igmp [4421]: : Not STP root, ignoring topology chang
e notification
2011 Sep  2 08:23:04.880605 igmp [4421]: : Received a STP Topology change notifi
cation
2011 Sep  2 08:23:04.508334 igmp [4421]: : igmp_cl_output_l2: Before IP api ...
2011 Sep  2 08:23:04.508332 igmp [4421]: : igmp_cl_output_l2: ...
2011 Sep  2 08:23:04.508330 igmp [4421]: : Flooding the packet to <vlan 1> (iif
Ethernet1/11)
<--Output truncated-->
switch#
```

Related Commands

Command	Description
ip igmp snooping event-history	Configures the size of the IGMP snooping event history buffers.
clear ip igmp snooping event-history	Clears information in the IGMP snooping event history buffers.

show ip igmp snooping explicit-tracking

To display information about explicit tracking for IGMP snooping, use the **show ip igmp snooping explicit-tracking** command.

show ip igmp snooping explicit-tracking [**vlan** *vlan-id*]

Syntax Description	**vlan** *vlan-id*	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 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   When you use this command without the optional **vlan** argument, the system displays information for all VLANs.

This command does not require a license.

Examples   This example shows how to display information about explicit tracking for IGMP snooping for VLAN 33:

```
switch# show ip igmp snooping explicit-tracking vlan 33
```

Related Commands

Command	Description
clear ip igmp snooping explicit-tracking vlan	Clears the IGMP snooping explicit host tracking information for VLANs.
ip igmp snooping explicit-tracking	Enables tracking of IGMPv3 membership reports from individual hosts for each port on a VLAN.

show ip igmp snooping groups

To display information about the group membership for IGMP snooping, use the **show ip igmp snooping groups** command.

show ip igmp snooping groups [{*source* [*group*]} | {*group* [*source*]}] [**vlan** *vlan-id*] [**detail**]

Syntax Description

source	(Optional) Source address for route.
group	(Optional) Group address for route.
vlan *vlan-id*	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
detail	(Optional) Displays detailed information for the group.

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 display information about the group membership for IGMP snooping:

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

Related Commands

Command	Description
show running-config igmp	Displays the IGMP running configuration.

show ip igmp snooping mrouter

To display the multicast routers detected by IGMP snooping, use the **show ip igmp snooping mrouter** command.

show ip igmp snooping mrouter [**vlan** *vlan-id*]

Syntax Description	**vlan** *vlan-id*	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 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 display the multicast routers detected by IGMP snooping:

```
switch(config)# show ip igmp snooping mrouter
Type: S - Static, D - Dynamic, I - Internal
Vlan  Router-port   Type      Uptime      Expires
1     Eth1/13       D         2d23h       00:04:59

switch(config)#
```

Related Commands

Command	Description
show running-config igmp	Displays the IGMP running configuration.

show ip igmp snooping querier

To display information about IGMP snooping queriers, use the **show ip igmp snooping querier** command.

show ip igmp snooping querier [**vlan** *vlan-id*]

Syntax Description	**vlan** *vlan-id* (Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 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 display information about IGMP snooping queriers:

```
switch# show ip igmp snooping querier
Vlan   IP Address      Version    Expires      Port
1      7.1.1.7         v2         00:03:27     Ethernet1/13
switch#
```

Related Commands

Command	Description
show running-config igmp	Displays the IGMP running configuration.

show ip igmp snooping statistics

To display information about IGMP snooping statistics, use the **show ip igmp snooping statistics** command.

show ip igmp snooping statistics [**vlan** *vlan-id* | **global**]

Syntax Description		
vlan *vlan-id*	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.	
global	(Optional) Specifies the global statistics.	

Command Default   None

Command Modes   Any command mode

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

Usage Guidelines   When you use this command without any options, the system prints statistics for all VLANs.

This command does not require a license.

Examples   This example shows how to display information about IGMP snooping statistics for VLAN 1:

```
switch(config)# show ip igmp snooping statistics vlan 1
```

Related Commands	Command	Description
	show running-config igmp	Displays the IGMP running configuration.

show ip mroute

To display information about IPv4 multicast routes, use the **show ip mroute** command.

> **show ip mroute** {*group* | {*source group*} | {*group* [*source*]}} [**summary** [**software-forwarded**]] [**vrf** {*vrf-name* | **all**}]

Syntax Description

group	Group address for route.
source	Source address for route.
summary	(Optional) Displays route counts and packet rates.
software-forwarded	(Optional) Displays software-switched route counts only.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

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 display information about IPv4 multicast routes:

```
switch(config)# show ip mroute
```

Related Commands

Command	Description
show ip mroute summary	Displays summary information about IPv4 multicast routes.

show ip mroute summary

To display summary information about IPv4 multicast routes, use the **show ip mroute summary** command.

> **show ip mroute summary** [**count** | **software-forwarded**] [**vrf** {*vrf-name* | **all**}]

> **show ip mroute** [*group*] **summary** [**software-forwarded**] [**vrf** {*vrf-name* | **all**}]

Syntax Description

count	(Optional) Displays only route counts.
software-forwarded	(Optional) Displays software-switched route counts only.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.
group	(Optional) Specifies a group address for a route.

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 display summary information about IPv4 multicast routes:

```
switch(config)# show ip mroute summary
```

This example shows how to display the number of IPv4 multicast routes:

```
switch# show ip mroute summary count
IP Multicast Routing Table for VRF "default"

Total number of routes: 1
Total number of (*,G) routes: 0
Total number of (S,G) routes: 0
Total number of (*,G-prefix) routes: 1
Group count: 0, rough average sources per group: 0.0
switch#
```

Related Commands

Command	Description
show ip mroute	Displays information about IPv4 multicast routes.

show ip msdp count

To display information about Multicast Source Discovery Protocol (MSDP) counts, use the **show ip msdp count** command.

show ip msdp count [*asn*] [**vrf** {*vrf-name* | **all**}]

Syntax Description

asn	(Optional) Autonomous system (AS) number.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

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 display MSDP counts:

```
switch(config)# show ip msdp count
```

Related Commands

Command	Description
show running-config msdp	Displays information about the MSDP running configuration.

show ip msdp event-history

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

> **show ip msdp event-history** {**errors** | **msgs** | **statistics**}

Syntax Description	errors	Displays events of type error.
	msgs	Displays events of type msg.
	statistics	Displays events of type statistics.

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 display information in the MSDP msgs event history buffer:

```
switch(config)# show ip msdp event-history msgs
```

Related Commands	Command	Description
	clear ip msdp event-history	Clears the contents of the MSDP event history buffers.
	ip msdp event-history	Configures the size of MSDP event history buffers.

show ip msdp mesh-group

To display information about Multicast Source Discovery Protocol (MSDP) mesh groups, use the **show ip msdp mesh-group** command.

show ip msdp mesh-group [*mesh-group*] [**vrf** {*vrf-name* | **all**}]

Syntax Description

mesh-group	(Optional) Mesh group name.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

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 display information about MSDP mesh groups:

```
switch(config)# show ip msdp mesh-group
```

Related Commands

Command	Description
show running-config msdp	Displays information about the MSDP running configuration.

show ip msdp peer

To display information about Multicast Source Discovery Protocol (MSDP) peers, use the **show ip msdp peer** command.

show ip msdp peer [*peer-address*] [**vrf** {*vrf-name* | **all**}]

Syntax Description	*peer-address*	(Optional) IP address of an MSDP peer.
	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
	all	Specifies all VRFs.

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 display information about MSDP peers:

```
switch(config)# show ip msdp peer
```

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

show ip msdp policy statistics sa-policy

To display information about Multicast Source Discovery Protocol (MSDP) Source-Active (SA) policies, use the **show ip msdp policy statistics sa-policy** command.

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

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

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 display information about MSDP SA policies:

```
switch(config)# show ip msdp policy statistics sa-policy 192.168.1.10 in
```

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

show ip msdp route

To display information about the Multicast Source Discovery Protocol (MSDP) Source-Active (SA) cache, use the **show ip msdp route** command.

show ip msdp route [{*source* [*group*]} | {*group* [*source*]}] [*asn*] [**peer** *peer*] [**detail**] [**vrf** {*vrf-name* | **all**}]

Syntax Description		
	source	Source address for SA cache information.
	group	(Optional) Group address for SA cache information.
	asn	(Optional) Autonomous system (AS) number.
	peer *peer*	(Optional) Specifies the IP address of a peer.
	detail	(Optional) Displays detailed information.
	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
	all	Specifies all VRFs.

Command Default   None

Command Modes   Any command mode

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

Usage Guidelines   The **show ip msdp sa-cache** command is an alternative form of this command.

This command requires the LAN Base Services license.

Examples   This example shows how to display information about the MSDP SA cache:

```
switch(config)# show ip msdp route
```

Related Commands	Command	Description
	clear ip msdp route	Clears routes in the MSDP Source-Active cache.
	show ip msdp sa-cache	Displays information about the MSDP SA cache.

show ip msdp rpf

To display information about the Multicast Source Discovery Protocol (MSDP) next-hop autonomous system (AS) on the Border Gateway Protocol (BGP) path to a rendezvous point (RP) address, use the **show ip msdp rpf** command.

show ip msdp rpf *rp-address* [**vrf** {*vrf-name* | **all**}]

Syntax Description		
rp-address	IP address of the RP.	
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.	
all	Specifies all VRFs.	

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 display information about MSDP reverse path forwarding (RPF) peers:

```
switch(config)# show ip msdp rpf 192.168.1.10
```

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

show ip msdp sa-cache

To display information about the Multicast Source Discovery Protocol (MSDP) Source-Active (SA) cache, use the **show ip msdp sa-cache** command.

show ip msdp {**sa-cache** | **route**} [{*source* [*group*]} | {*group* [*source*]}] [*asn*] [**peer** *peer*] [**detail**] [**vrf** {*vrf-name* | **all**}]

Syntax Description

source	Source address for SA cache information.
group	(Optional) Group address for SA cache information.
asn	(Optional) Autonomous system (AS) number.
peer *peer*	(Optional) Specifies the IP address of a peer.
detail	(Optional) Displays detailed information.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

Command Default   None

Command Modes   Any command mode

Command History

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

Usage Guidelines   The **show ip msdp route** command is an alternative form of this command.

This command requires the LAN Base Services license.

Examples   This example shows how to display information about the MSDP SA cache:

```
switch(config)# show ip msdp sa-cache
```

Related Commands

Command	Description
clear ip msdp sa-cache	Clears routes in the MSDP Source-Active cache.
show ip msdp route	Displays information about the MSDP SA cache.

show ip msdp sources

To display information about Multicast Source Discovery Protocol (MSDP) learned sources, use the **show ip msdp sources** command.

show ip msdp sources [**vrf** {*vrf-name* | **all**}]

Syntax Description

vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

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 display information about MSDP learned sources:

```
switch(config)# show ip msdp sources
```

Related Commands

Command	Description
show running-config msdp	Displays information about the MSDP running configuration.

show ip msdp summary

To display summary information about Multicast Source Discovery Protocol (MSDP) peers, use the **show ip msdp summary** command.

show ip msdp summary [**vrf** {*vrf-name* | **all**}]

Syntax Description	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
	all	Specifies all VRFs.

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 display summary information about MSDP peers:

```
switch(config)# show ip msdp summary
```

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

show ip pim event-history

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

show ip pim event-history {**errors** | **msgs** | **statistics**}

Syntax Description	errors	Displays events of type error.
	msgs	Displays events of type msg.
	statistics	Displays events of type statistics.

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 display information in the IPv4 PIM msgs event history buffer:

```
switch(config)# show ip pim event-history msgs
```

Related Commands	Command	Description
	clear ip pim event-history	Clears the contents of the PIM event history buffers.
	ip pim event-history	Configures the size of PIM event history buffers.

show ip pim group-range

To display information about the group ranges for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim group-range** command.

show ip pim group-range [*group*] [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description

group	(Optional) Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	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 display information about IPv4 PIM group ranges:

```
switch(config)# show ip pim group-range
```

Related Commands

Command	Description
show running-config pim	Displays information about the PIM running configuration.

show ip pim interface

To display information about the enabled interfaces for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim interface** command.

> **show ip pim interface** [**brief**] [**vrf** {*vrf-name* | **all** | **default** | **management**}]

> **show ip pim interface ethernet** {*slot/port* | **port-channel** *channel-number*[*.sub_if-number*] | **vlan** *vlan-id*}

Syntax Description		
brief	(Optional) Specifies a brief format for display.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.
default	Specifies the default VRF.
management	Specifies the management VRF.
ethernet *slot/port*	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 *number*	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	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 display brief information about IPv4 PIM-enabled interfaces:

```
switch# show ip pim interface brief
```

This example shows how to display information about PIM-enabled interfaces:

```
switch# show ip pim interface ethernet 2/5
```

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

show ip pim neighbor

To display information about IPv4 Protocol Independent Multicast (PIM) neighbors, use the **show ip pim neighbor** command.

show ip pim neighbor {[**ethernet** *slot*/*port* | **port-channel** *channel-number*[.*sub_if-number*] | **vlan** *vlan-id*] | [*neighbor-addr*]} [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description

ethernet *slot/port*	(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 *number*	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	Specifies the VLAN. The range is from 1 to 4094.
neighbor-addr	(Optional) IP address of a neighbor.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	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 display information about PIM neighbors:

```
switch(config)# show ip pim neighbor
```

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

show ip pim oif-list

To display information about IPv4 Protocol Independent Multicast (PIM) interfaces for a group, use the **show ip pim oif-list** command.

show ip pim oif-list *group* [*source*] [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description		
	group	Group address.
	source	(Optional) Source address.
	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	vrf-name	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 display IPv4 PIM interfaces for a group:

```
switch(config)# show ip pim oif-list 232.0.0.0
```

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

show ip pim policy statistics auto-rp

To display information about the Auto-RP policy statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim policy statistics auto-rp** command.

show ip pim policy statistics auto-rp {**rp-candidate-policy** | **mapping-agent-policy**} [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description

rp-candidate-policy	Specifies candidate-RP messages.
mapping-agent-policy	Specifies mapping agent messages.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	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 display information about IPv4 PIM policy statistics:

```
switch(config)# show ip pim policy statistics auto-rp rp-candidate-policy
```

Related Commands

Command	Description
show running-config pim	Displays information about the PIM running configuration.

show ip pim policy statistics bsr

To display information about the bootstrap router (BSR) policy statistics for IPv4 Protocol Independent multicast (PIM), use the **show ip pim policy statistics bsr** command.

show ip pim policy statistics bsr {**bsr-policy** | **rp-candidate-policy**} [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description

bsr-policy	Specifies BSR messages.
rp-candidate-policy	Specifies candidate-RP messages.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	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 display information about IPv4 PIM policy statistics:

```
switch(config)# show ip pim policy statistics bsr bsr-policy
```

Related Commands

Command	Description
show running-config pim	Displays information about the PIM running configuration.

show ip pim policy statistics jp-policy

To display information about the join-prune policy statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim policy statistics jp-policy** command.

show ip pim policy statistics jp-policy {**ethernet** *slot*/*port* | **port-channel** *channel-number*[.*sub_if-number*] | **vlan** *vlan-id*}

Syntax Description		
ethernet *slot/port*	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 *number*	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	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 display information about PIM policy statistics:

```
switch(config)# show ip pim policy statistics jp-policy ethernet 2/12
```

Related Commands

Command	Description
show running-config pim	Displays information about the PIM running configuration.

show ip pim policy statistics neighbor-policy

To display information about the neighbor policy statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim policy statistics neighbor-policy** command.

show ip pim policy statistics neighbor-policy {**ethernet** *slot*/*port* | **port-channel** *channel-number*[.*sub_if-number*] | **vlan** *vlan-id*}

Syntax Description		
ethernet *slot/port*	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 *number*	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	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 display information about IPv4 PIM policy statistics:

```
switch(config)# show ip pim policy statistics neighbor-policy ethernet 2/12
```

Related Commands

Command	Description
show running-config pim	Displays information about the PIM running configuration.

show ip pim policy statistics register-policy

To display information about the register policy statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim policy statistics register-policy** command.

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

Syntax Description

vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.
default	Specifies the default VRF.
management	Specifies the management VRF.

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 display information about PIM policy statistics:

```
switch(config)# show ip pim policy statistics register-policy vrf all
```

Related Commands

Command	Description
show running-config pim	Displays information about the PIM running configuration.

show ip pim route

To display information about the routes for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim route** command.

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

Syntax Description

source	Source address.
group	Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	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 display IPv4 PIM routes:

```
switch(config)# show ip pim route 232.0.0.0
```

Related Commands

Command	Description
ip pim flush-routes	Removes routes when the IPv4 PIM process is restarted.
show running-config pim	Displays information about the PIM running configuration.

show ip pim rp

To display information about the rendezvous points (RPs) for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim rp** command.

show ip pim rp [*group*] [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description		
group	(Optional) Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.
default	Specifies the default VRF.
management	Specifies the management VRF.

Command Default   None

Command Modes   Any command mode

Command History	Release	Modification
	7.0(3)I2(1)	If no interfaces are PIM-enabled, this command will throw "process is not running" errors.
	5.0(3)U1(1)	This command was introduced.

Usage Guidelines   This command requires the LAN Base Services license.

✎

Note   In earlier releases, the PIM-process is always running and show ip pim rp is handled properly. Beginning in Release 7.0(3)I2(1), if no interfaces are PIM-enabled, this command will throw "process is not running" errors.

Examples   This example shows how to display information about IPv4 PIM RPs:

```
switch(config)# show ip pim rp
```

Related Commands	Command	Description
	ip pim rp-address	Configures an IPv4 PIM static RP address for a multicast group range.

Command	Description
ip pim rp-candidate	Configures the router as an IPv4 PIM bootstrap router (BSR) RP candidate.
show running-config pim	Displays information about the PIM running configuration.

show ip pim rp-hash

To display information about the RP-hash values for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim rp-hash** command.

show ip pim rp-hash *group* [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description		
	group	Group address for RP lookup.
	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
	all	Specifies all VRFs.
	default	Specifies the default VRF.
	management	Specifies the management VRF.

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 display information about IPv4 PIM RP-hash values:

```
switch(config)# show ip pim rp-hash 224.1.1.1
```

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

show ip pim statistics

To display information about the packet counter statistics for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim statistics** command.

show ip pim statistics [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
	all	Specifies all VRFs.
	default	Specifies the default VRF.
	management	Specifies the management VRF.

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 display information about IPv4 PIM statistics:

```
switch(config)# show ip pim statistics
```

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

show ip pim vrf

To display information about IPv4 Protocol Independent Multicast (PIM) by virtual routing and forwarding (VRF) instance, use the **show ip pim vrf** command.

show ip pim vrf [*vrf-name* | **all** | **default** | **detail** | **management**]

Syntax Description		
vrf-name	(Optional) VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	(Optional) Specifies all VRFs.
default	(Optional) Specifies the default VRF.
detail	(Optional) Displays detailed PIM VRF information.
management	(Optional) Specifies the management VRF.

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 display information about IPv4 PIM by VRF:

```
switch(config)# show ip pim vrf
```

This example shows how to display the detailed information about IPv4 PIM by VRF:

```
switch# show ip pim vrf detail
```

Related Commands

Command	Description
ip pim state-limit	Configures the maximum number of IPv4 PIM state entries in the current VRF instance.

show ip static-route

To display static routes from the unicast Routing Information Base (RIB), use the **show ip static-route** command.

show ip static-route [*vrf-name* | **all** | **default** | **management**]

Syntax Description

vrf *vrf-name*	(Optional) Specifies the virtual routing and forwarding (VRF) context name. The name can be any case-sensitive, alphanumeric string up to 32 characters.
all	(Optional) Specifies all VRF instances.
default	(Optional) Specifies the default VRF.
management	(Optional) Specifies the management VRF.

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 display the static routes:

```
switch(config)# show ip static-route
```

Related Commands

Command	Description
ip route	Configures a static route.

show routing ip multicast event-history

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

> **show routing ip multicast event-history** {**cli** | **errors** | **mfdm-debugs** | **mfdm-stats** | **msgs** | **rib** | **statistics** | **vrf**}

Syntax Description

cli	Displays the event history buffer of type CLI.
errors	Displays the event history buffer of type errors.
mfdm-debugs	Displays the event history buffer of type multicast FIB distribution (MFDM).
mfdm-stats	Displays the event history buffer of type MFDM sum.
msgs	Displays the event history buffer of type msgs.
rib	Displays the event history buffer of type RIB.
statistics	Displays information about the event history buffers.
vrf	Displays the event history buffer of type virtual routing and forwarding (VRF).

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 display information in the MRIB msgs event history buffer:

```
switch# show routing ip multicast event-history msgs

Msg events for MRIB Process
1) Event:E_DEBUG, length:38, at 724454 usecs after Fri Sep  2 06:56:42 2011
    [100] : nvdb: transient thread created

2) Event:E_DEBUG, length:38, at 723779 usecs after Fri Sep  2 06:56:42 2011
    [100] : nvdb: create transcient thread

3) Event:E_DEBUG, length:76, at 723775 usecs after Fri Sep  2 06:56:42 2011
    [100] : comp-mts-rx opc - from sap 11227 cmd mrib_internal_event_hist_comman
d
4) Event:E_MTS_RX, length:60, at 240798 usecs after Fri Sep  2 06:56:01 2011
    [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X00A5EDE6, Ret:SUCCESS
<--Output truncated-->
switch#
```

Related Commands

Command	Description
ip routing multicast event-history	Configures the size of the IPv4 MRIB event history buffers.
clear ip routing multicast event-history	Clears information in the IPv4 MRIB event history buffers.

show routing multicast

To display information about IPv4 multicast routes, use the **show routing multicast** command.

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

Syntax Description

ip	(Optional) Specifies IPv4 routes.
ipv4	(Optional) Specifies IPv4 routes.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.
default	Specifies the default VRF.
management	Specifies the management VRF.
source	Source address for routes.
group	Group address for routes.

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 display information about IPv4 multicast routes:

```
switch# show routing multicast
IP Multicast Routing Table for VRF "default"

(*, 232.0.0.0/8), uptime: 1w1d, pim ip
  Incoming interface: Null, RPF nbr: 0.0.0.0
  Outgoing interface list: (count: 0)

switch#
```

Related Commands

Command	Description
ip routing multicast event-history	Configures the size of the IPv4 Multicast Routing Information Base (MRIB) event history buffers.
ip routing multicast holddown	Configures the IPv4 multicast routing initial holddown period.

show routing multicast clients

To display information about IPv4 multicast routing clients, use the **show routing multicast clients** command.

show routing [**ip** | **ipv4**] **multicast clients** [*client-name*]

Syntax Description	**ip**	(Optional) Specifies IPv4 multicast clients.
	ipv4	(Optional) Specifies IPv4 multicast clients.
	client-name	(Optional) One of the following multicast routing client names:

- mrib
- igmp
- static
- msdp
- ip
- pim

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 display information about IPv4 multicast clients:

```
switch# show routing multicast clients pim
IP Multicast Routing Client information

Client: pim, client-id: 5, pid: 4449, mts-sap: 310
  Shared-memory: pim, Notifications: joins prunes rpf delete repopulate
  Protocol is ssm owner, bidir owner, shared-only mode owner, internal owner
  Join notifications:        sent 1, fail 0, ack rcvd 1
  Prune notifications:       sent 0, fail 0, ack rcvd 0
  RPF notifications:         sent 0, fail 0, ack rcvd 0
  Delete notifications:      sent 0, fail 0, ack rcvd 0
  Repopulate notifications:  sent 0, fail 0, ack rcvd 0
  Clear mroute notifications: sent 0, fail 0
  Add route requests:        rcvd 2, ack sent 2, ack fail 0
  Delete route requests:     rcvd 0, ack sent 0, ack fail 0
  Update route requests:     rcvd 0, ack sent 0, ack fail 0
```

```
    MTS update route requests:  rcvd 0, ack sent 0, ack fail 0
     Per VRF notification markers: 1

switch#
```

Related Commands

Command	Description
ip routing multicast event-history	Configures the size of the IPv4 Multicast Routing Information Base (MRIB) event history buffers.
ip routing multicast holddown	Configures the IPv4 multicast routing initial holddown period.

show running-config igmp

To display information about the running-system configuration for IGMP, use the **show running-config igmp** command.

> **show running-config igmp** [**all**]

Syntax Description

all	(Optional) Displays configured and default information.

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

Examples   This example shows how to display information about the IGMP running-system configuration:

```
switch(config)# show running-config igmp
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration information to the startup configuration file.
show startup-config igmp	Displays information about the IGMP startup configuration.

show running-config msdp

To display information about the running-system configuration for Multicast Source Discovery Protocol (MSDP), use the **show running-config msdp** command.

show running-config msdp [**all**]

Syntax Description	**all**	(Optional) Displays configured and default information.

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 display information about the MSDP running-system configuration:

```
switch(config)# show running-config msdp
```

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

show running-config pim

To display information about the running-system configuration for IPv4 Protocol Independent Multicast (PIM), use the **show running-config pim** command.

show running-config pim [**all**]

Syntax Description	**all**	(Optional) Displays configured and default information.

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 display information about the IPv4 PIM running-system configuration:

```
switch(config)# show running-config pim
```

Related Commands	Command	Description
	copy running-config startup-config	Copies the running configuration information to the startup configuration file.
	show startup-config pim	Displays information about the IPv4 PIM startup configuration.

show startup-config igmp

To display information about the startup-system configuration for IGMP, use the **show startup-config igmp** command.

show startup-config igmp [**all**]

Syntax Description	**all**	(Optional) Displays configured and default information.

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

Examples   This example shows how to display information about the IGMP startup-system configuration:

```
switch(config)# show startup-config igmp
```

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

show startup-config msdp

To display information about the startup-system configuration for Multicast Source Discovery Protocol (MSDP), use the **show startup-config msdp** command.

show startup-config msdp [**all**]

Syntax Description		
all	(Optional) Displays configured and default information.	

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 display information about the startup-system configuration for MSDP:

```
switch(config)# show startup-config msdp
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration information to the startup configuration file.
clear ip msdp statistics	Clears the statistics for MSDP peers.

show startup-config pim

To display information about the startup-system configuration for IPv4 Protocol Independent Multicast (PIM), use the **show startup-config pim** command.

show startup-config pim [**all**]

Syntax Description	**all**	(Optional) Displays configured and default information.

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 display information about the startup-system configuration for IPv4 PIM:

```
switch(config)# show startup-config pim
```

Related Commands	Command	Description
	copy running-config startup-config	Copies the running configuration information to the startup configuration file.
	clear ip pim statistics	Clears PIM statistics counters.

show startup-config pim