



Show Commands

This chapter describes the Cisco NX-OS multicast routing **show** commands.

show forwarding distribution ip igmp snooping

To display information about Layer 2 IGMP snooping multicast 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 <i>vlan-id</i>	(Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
group <i>group-addr</i>	(Optional) Specifies a group address.
source <i>source-addr</i>	(Optional) Specifies a source address.

Command Default None

Command Modes Any command mode

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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
	test forwarding distribution perf	Tests the forwarding distribution performance of the Forwarding Information Base (FIB).

show forwarding distribution ipv6 multicast route

To display information about the multicast IPv6 FIB routes, use the **show forwarding distribution ipv6 multicast route** command.

```
show forwarding distribution ipv6 multicast route [table table_id | vrf vrf-name] [group [source]
| summary]
```

Syntax	Description
table <i>table_id</i>	(Optional) Specifies a table ID. The range is from 0x0 to 0xffffffff.
vrf <i>vrf-name</i>	(Optional) Specifies a virtual routing and forwarding (VRF) name. The name can be a maximum of 32 alphanumeric characters.
<i>group</i>	(Optional) IPv6 group address.
<i>source</i>	(Optional) IPv6 source address.
summary	(Optional) Specifies route counts.

Defaults None

Command Modes Any command mode

Supported Users/Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to display information about the multicast IPv6 FIB routes:

```
switch(config)# show forwarding distribution ipv6 multicast route
```

```
IPv6 Multicast Routing table table-id:0x80000001
Total number of groups: 5
Legend:
  C = Control Route
  D = Drop Route
  G = Local Group (directly connected receivers)
  O = Drop on RPF Fail
  P = Punt to supervisor
```

■ show forwarding distribution ipv6 multicast route

```
(*, ff00::/8), RPF Interface: NULL, flags: D
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff01::/16), RPF Interface: NULL, flags: D
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff02::/16), RPF Interface: NULL, flags: CP
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff11::/16), RPF Interface: NULL, flags: D
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff12::/16), RPF Interface: NULL, flags: CP
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List
switch#
```

show forwarding distribution 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.
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Command Default	None
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Command Modes	Any command mode
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Supported Use Roles	network-admin network-operator vdc-admin vdc-operator
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Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines	This command does not require a license.
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Examples	<p>This example shows how to display information about multicast distribution messages:</p> <pre>switch(config)# show forwarding distribution multicast Number of Multicast FIB Processes Active: 1 Slot FIB State 1 ACTIVE switch#</pre>
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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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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
Client-name  Client-id  Shared Memory Name
mrib         1           mrib-mfdm
switch#
```

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.
	<i>index</i>	(Optional) OIF list index.

Command Default None

Command Modes Any command mode

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

Command History	Release	Modification
	5.0(3)N1(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
```

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 <i>id</i>	(Optional)	Specifies the multicast routing table ID. The range is from 0 to 2147483647.
vrf <i>vrf_name</i>	(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.
<i>group-addr</i>		IPv4 multicast group address.
<i>mask</i>	(Optional)	Mask for the group address.
<i>group-prefix</i>	(Optional)	IPv4 multicast group prefix.
source	(Optional)	Specifies an IPv4 multicast source.
<i>source-addr</i>		IPv4 source address.
<i>source-mask</i>	(Optional)	Mask for the group address.
<i>source-prefix</i>	(Optional)	IPv4 multicast source prefix.
summary	(Optional)	Displays the route counts.

Command Default None

Command Modes Any command mode

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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

(*, 224.0.0.0/24), RPF Interface: NULL, flags: CP
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, 224.0.1.39/32), RPF Interface: NULL, flags: CP
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, 224.0.1.40/32), RPF Interface: NULL, flags: CP
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, 232.0.0.0/8), RPF Interface: NULL, flags: D
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List
switch#
```

show forwarding ipv6 multicast route

To display information about the IPv6 multicast routes, use the **show forwarding ipv6 multicast route** command.

```
show forwarding [vrf {vrf-name | all}] ipv6 multicast route [{group {group | group-addr} |
source {source | source-addr} | module num | vrf {vrf-name | all}] | summary [module num |
vrf {vrf-name | all}]}
```

Syntax	Description
vrf	(Optional) Displays routes for a specific virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Displays information for all VRFs.
group	(Optional) Specifies multicast IPv6 group address.
<i>group</i>	Multicast IPv6 group address with prefix.
<i>group-addr</i>	Multicast IPv6 group address.
source	Specifies multicast IPv6 source address.
<i>source</i>	Multicast IPv6 source address with prefix.
<i>source-addr</i>	Multicast IPv6 source address.
module num	(Optional) Specifies module number.
summary	Displays route counts.

Defaults None

Command Modes Any command mode

Supported Users/Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
	4.1(3)	Added the <i>group-addr</i> and <i>source-addr</i> arguments.

Usage Guidelines This command does not require a license.

Examples

This example shows how to display information about the IPv6 multicast routes:

```
switch(config)# show forwarding ipv6 multicast route

IPv6 Multicast Routing table table-id:0x80000001
Total number of groups: 0
Legend:
  C = Control Route
  D = Drop Route
  G = Local Group (directly connected receivers)
  O = Drop on RPF failure
  P = Punt to Supervisor

(*, ff00::/8), RPF Interface: NULL, flags: DW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff01::/16), RPF Interface: NULL, flags: DW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff02::/16), RPF Interface: NULL, flags: CPW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff11::/16), RPF Interface: NULL, flags: DW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List

(*, ff12::/16), RPF Interface: NULL, flags: CPW
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 0
  Null Outgoing Interface List
switch(config)#
```

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 [*module num*] [*index*]

Syntax Description	module num	(Optional) Specifies the module number.
	index	(Optional) OIF list index. The OIF list index is from 1 to 65535.

Command Default None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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

  Outgoing Interface List Index: 1
  Reference Count: 1
    Ethernet1/5
switch#
```

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.

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

Syntax	Description
vrf	(Optional) Displays information for a specified virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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.
<i>group-addr</i>	IPv4 multicast group address.
<i>group-mask</i>	(Optional) IPv4 multicast group address mask.
<i>group-prefix</i>	(Optional) IPv4 multicast group prefix.
source	(Optional) Specifies an IPv4 multicast source address.
<i>source-addr</i>	IPv4 multicast source address.
<i>source-mask</i>	IPv4 multicast source address mask.
<i>source-prefix</i>	IPv4 multicast source prefix.
module num	(Optional) Specifies the module number.
summary	Displays route counts.

Command Default None

Command Modes Any command mode

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

show forwarding multicast route

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

IPv4 Multicast Routing table table-id:1
Total number of groups: 1
Legend:
  C = Control Route
  D = Drop Route
  G = Local Group (directly connected receivers)
  O = Drop on RPF failure
  P = Punt to Supervisor
  W = Wildcard
  d = OTV Decap route

(*, 230.0.0.0/32), RPF Interface: NULL, flags: DG
  Received Packets: 0 Bytes: 0
  Number of Outgoing Interfaces: 1
  Outgoing Interface List Index: 1
    Ethernet1/5 Outgoing Packets:0 Bytes:0
switch#
```

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: 1
Total number of (*,G) routes: 1
Total number of (S,G) routes: 0
Total number of (*,G-prefix) routes: 0
Group count: 1
Prefix insert fail count: 9
switch#
```

Related Commands

Command	Description
clear ip mroute	Clears 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

Supported Users/Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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
2008 Apr 12 04:01:32.339950 igmp [4588]: : Router-port PSS entry for vlan 20 upd
```

■ show ip igmp event-history

```
ated [count 0]
2008 Apr 12 04:00:05.118545 igmp [4588]: : Handling existing vlans notification
2008 Apr 12 04:00:04.824730 igmp [4588]: : PSS entry for global updatedswitch(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] | vethernet veth-id | vlan vlan-id] [vrf {vrf-name | all}]
```

Syntax	Description
<i>source</i>	Source IP address.
<i>group</i>	(Optional) Multicast IP address of the single group to display.
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.
vethernet <i>veth-id</i>	(Optional) Specifies the virtual Ethernet interface. The interface number can be from 1 to 1,048,575.
vlan <i>vlan-id</i>	(Optional) Specifies the VLAN. The range is from 1 to 4094.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

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

Command History	Release	Modification
	5.0(3)N1(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.

■ show ip igmp groups

Examples

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

```
switch(config)# show ip igmp groups
IGMP Connected Group Membership for VRF "default" - 0 total entries
Type: S - Static, D - Dynamic, L - Local, T - SSM Translated
Group Address      Type Interface      Uptime   Expires   Last Reporter
switch(config)#
```

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] |
vethernet veth-id | vlan vlan-id }
```

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

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.
port-channel <i>number</i>	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
<i>sub_if_number</i>	Subinterface number. The range is from 1 to 4093.
vethernet <i>veth-id</i>	Specifies the virtual Ethernet interface. The range is from 1 to 1,048,575.
vlan <i>vlan-id</i>	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.
<i>vrf-name</i>	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

Supported Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information when IGMP is in vPC mode.

Usage Guidelines This command does not require a license.

Examples

This example shows how to display information about IGMP on an interface (if IGMP is not in vPC mode, the vPC information is not displayed):

```
switch(config)# show ip igmp interface vlan 5
IGMP Interfaces for VRF "default"
Vlan20, Interface status: protocol-down/link-down/admin-down
  IP address: 20.1.1.3, IP subnet: 20.1.1.0/24
  Active querier: 0.0.0.0
  Membership count: 0
  Old Membership count 0
  Route-queue depth: 0
  IGMP version: 2, host version: 0
  IGMP query interval: 125 secs, configured value: 125 secs
  IGMP max response time: 10 secs, configured value: 10 secs
  IGMP startup query interval: 31 secs, configured value: 31 secs
  IGMP startup query count: 2
  IGMP last member mrt: 1 secs
  IGMP last member query count: 2
  IGMP group timeout: 260 secs, configured value: 260 secs
  IGMP querier timeout: 255 secs, configured value: 255 secs
  IGMP unsolicited report interval: 10 secs
  IGMP robustness variable: 2, configured value: 2
  IGMP reporting for link-local groups: disabled
  IGMP interface enable refcount: 1
  IGMP interface immediate leave: disabled
  IGMP Report Policy: None
  IGMP State Limit: None
  IGMP interface statistics:
    General (sent/received):
      v1-reports: 0/0
      v2-queries: 0/0, v2-reports: 0/0, v2-leaves: 0/0
      v3-queries: 0/0, v3-reports: 0/0
    Errors:
      General Queries received with invalid destination address; v2: 0, v3: 0
      Checksum errors: 0, Packet length errors: 0
      Packets with Local IP as source: 0, Source subnet check failures: 0
      Query from non-querier:0
      Report version mismatch: 0, Query version mismatch: 0
      Unknown IGMP message type: 0
      Invalid v1 reports: 0, Invalid v2 reports: 0, Invalid v3 reports: 0
      Packets dropped due to router-alert check: 0
  Interface PIM DR: No
  Interface vPC CFS statistics:
    DR queries sent: 0
    DR queries rcvd: 0
    DR queries fail: 0
    DR updates sent: 0
    DR updates rcvd: 0
    DR updates fail: 0
switch(config)#
```

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

```
switch(config)# show ip igmp interface brief
IGMP Interfaces for VRF "default", count: 1
Interface          IP Address      IGMP Querier    Membership  Version
                  IP Address      IP Address      Count
Vlan20             20.1.1.3        0.0.0.0         0           v2
switch(config)#
```

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] |
vethernet veth-id | vlan vlan-id] [vrf {vrf-name | all}]
```

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.
port-channel <i>number</i>	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
<i>sub_if_number</i>	Subinterface number. The range is from 1 to 4093.
vethernet <i>veth-id</i>	Specifies the virtual Ethernet interface. The range is from 1 to 1,048,575.
vlan <i>vlan-id</i>	Specifies the VLAN. The range is from 1 to 4094.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

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

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

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] | vethernet veth-id | vlan vlan-id] [vrf {vrf-name | all}]
```

Syntax Description	
<i>source</i>	Source IP address.
<i>group</i>	(Optional) Multicast IP address of single group to display.
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>	Subinterface number. The range is from 1 to 4093.
vethernet <i>veth-id</i>	Specifies the virtual Ethernet interface. The range is from 1 to 1,048,575.
vlan <i>vlan-id</i>	Specifies the VLAN. The range is from 1 to 4094.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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
IGMP Connected Group Membership for VRF "default" - 1 total entries
Type: S - Static, D - Dynamic, L - Local, T - SSM Translated
Group Address      Type Interface      Uptime    Expires    Last Reporter
230.0.0.0          S    Ethernet1/5        00:31:47  never     0.0.0.0
switch#
```

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 <i>vlan-id</i> (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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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 for a VLAN:

```
switch(config)# show ip igmp snooping vlan 20
IGMP Snooping information for vlan 20
  IGMP snooping enabled
  Optimised Multicast Flood (OMF) disabled
  IGMP querier none
  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:
    Eth1/21    Po100
switch(config)#
```

show ip igmp snooping event-history

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

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

Syntax Description	Option	Description
	vpc	Displays the event history buffer of type virtual port channel (vPC).
	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

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

Command History	Release	Modification
	5.0(3)N1(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(config)# show ip igmp snooping event-history vlan

vlan Events for IGMP snoopprocess
2008 Apr 12 06:30:47.790031 igmp [4588]: : IGMPv3 proxy report: no routers found
2008 Apr 12 06:30:47.790012 igmp [4588]: : IGMPv3 proxy report: no records to se
nd
2008 Apr 12 06:30:47.789882 igmp [4588]: : IGMPv3 proxy report: no routers found
2008 Apr 12 06:30:47.789740 igmp [4588]: : IGMPv3 proxy report: no routers found
2008 Apr 12 06:30:47.789721 igmp [4588]: : IGMPv3 proxy report: no records to se
nd
```

show ip igmp snooping event-history

```

2008 Apr 12 06:30:47.789584 igmp [4588]: : IGMPv3 proxy report: no routers found
2008 Apr 12 06:13:17.022028 igmp [4588]: : Received a STP Topology change notification, 1 vlans
2008 Apr 12 06:13:17.022023 igmp [4588]: : Received a STP Topology change notification
2008 Apr 12 06:13:15.022294 igmp [4588]: : Received a STP Topology change notification, 1 vlans
2008 Apr 12 06:13:15.022289 igmp [4588]: : Received a STP Topology change notification
2008 Apr 12 06:13:14.662417 igmp [4588]: : Received a STP Topology change notification, 1 vlans
2008 Apr 12 06:13:14.662412 igmp [4588]: : Received a STP Topology change notification
2008 Apr 12 06:13:12.642393 igmp [4588]: : Received a STP Topology change notification, 1 vlans
2008 Apr 12 06:13:12.642388 igmp [4588]: : Received a STP Topology change notification
2008 Apr 12 06:13:11.946051 igmp [4588]: : Received a STP Topology change notification, 1 vlans
2008 Apr 12 06:13:11.946046 igmp [4588]: : Received a STP Topology change notification
<--Output truncated-->
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 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 <i>vlan-id</i> (Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.						
Command Default	None						
Command Modes	Any command mode						
Supported Use Roles	network-admin network-operator vdc-admin vdc-operator						
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>5.0(3)N1(1)</td> <td>This command was introduced.</td> </tr> <tr> <td>4.2(2)</td> <td>This command was changed to make the vlan argument optional.</td> </tr> </tbody> </table>	Release	Modification	5.0(3)N1(1)	This command was introduced.	4.2(2)	This command was changed to make the vlan argument optional.
Release	Modification						
5.0(3)N1(1)	This command was introduced.						
4.2(2)	This command was changed to make the vlan argument optional.						
Usage Guidelines	<p>When you use this command without the optional vlan argument, the system displays information for all VLANs.</p> <p>This command does not require a license.</p>						
Examples	<p>This example shows how to display information about explicit tracking for IGMP snooping for VLAN 33:</p> <pre>switch# show ip igmp snooping explicit-tracking vlan 33</pre>						
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>clear ip igmp snooping explicit-tracking vlan</td> <td>Clears the IGMP snooping explicit host tracking information for VLANs.</td> </tr> <tr> <td>ip igmp snooping explicit-tracking</td> <td>Enables tracking of IGMPv3 membership reports from individual hosts for each port on a VLAN.</td> </tr> </tbody> </table>	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.
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	
<i>source</i>	(Optional) Source address for route.
<i>group</i>	(Optional) Group address for route.
vlan <i>vlan-id</i>	(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

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
	4.1(2)	Arguments <i>source</i> and <i>group</i> were added.

Usage Guidelines This command does not require a license.

Examples This example shows how to display information about the group membership for IGMP snooping:

```
switch(config)# show ip igmp snooping groups
Type: S - Static, D - Dynamic, R - Router port

Vlan  Group Address      Ver  Type  Port list
20    **/**                -    R     Vlan20
switch(config)#
```

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 <i>vlan-id</i> (Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
---------------------------	---

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

Command Modes	Any command mode
----------------------	------------------

Supported Use Roles	network-admin network-operator vdc-admin vdc-operator
----------------------------	--

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information.

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

Examples	This example shows how to display the multicast routers detected by IGMP snooping:
-----------------	--

```
switch(config)# show ip igmp snooping mrouter
Type: S - Static, D - Dynamic, V - vPC Peer Link
Type: S - Static, D - Dynamic, V - vPC Peer Link, I - Internal
Vlan Router-port Type Uptime Expires
20 Vlan20 I 04:16:16 never (down)

switch(config)#
```

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 <i>vlan-id</i> (Optional) Specifies a VLAN. The range is from 1 to 3967 and 4048 to 4093.
---------------------------	---

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

Command Modes	Any command mode
----------------------	------------------

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

Command History	Release	Modification
	5.0(3)N1(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(config)# show ip igmp snooping querier
-----------------	---

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 <i>vlan-id</i>	(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

Supported Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information.
	4.2(1)	Enhanced output for vPC information.
	4.2(2)	Changed command to make the vlan argument optional and to introduce the optional global argument.

Usage Guidelines When you use this command without any options, the system prints statistics for all VLANs. This command does not require a license.

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

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

show ip mroute

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

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

Syntax Description	
<i>group</i>	Group address for route.
<i>source</i>	Source address for route.
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.
<i>vrf-name</i>	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

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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
IP Multicast Routing Table for VRF "default"

(*, 232.0.0.0/8), uptime: 04:18:55, pim ip
  Incoming interface: Null, RPF nbr: 0.0.0.0
  Outgoing interface list: (count: 0)

switch(config)#
```

The display specifies the interface established for each one and shows the router owners. In the case of the first paragraph in the display, the route owner is **igmp ip pim. iod** is an internal representation the device uses for the interface.

Related Commands	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.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.
<i>group</i>	(Optional) Specifies a group address for a route.

Command Default None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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
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
```

```

Group: 232.0.0.0/8, Source count: 0
Source          packets      bytes          aps    pps          bit-rate      oifs
(*,G)           0              0              0      0            0.000 bps  0

```

```
switch(config)#
```

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: 2
Total number of (*,G) routes: 1
Total number of (S,G) routes: 0
Total number of (*,G-prefix) routes: 1
Group count: 1, 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	
<i>asn</i>	(Optional) Autonomous system (AS) number.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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
```

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

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to display information in the MSDP msgs event history buffer:

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

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	
<i>mesh-group</i>	(Optional) Mesh group name.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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
```

show ip msdp peer

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

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

Syntax Description	
<i>peer-address</i>	(Optional) IP address of an MSDP peer.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

Supported User Roles

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

Command History	Release	Modification
	5.0(3)N1(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
```

show ip msdp policy statistics sa-policy

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

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

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

Command Default None

Command Modes Any command mode

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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
```

show ip msdp route

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

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

Syntax Description	
<i>source</i>	Source address for SA cache information.
<i>group</i>	(Optional) Group address for SA cache information.
<i>asn</i>	(Optional) Autonomous system (AS) number.
peer <i>peer</i>	(Optional) Specifies the IP address of a peer.
detail	(Optional) Displays detailed information.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

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

Command History	Release	Modification
	5.0(3)N1(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
```

■ 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	
<i>rp-address</i>	IP address of the RP.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

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

Command History	Release	Modification
	5.0(3)N1(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
```

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 [{source [group]} | {group [source]}] [asn] [peer peer] [detail] [vrf
  {vrf-name | all}]
```

Syntax Description	
<i>source</i>	Source address for SA cache information.
<i>group</i>	(Optional) Group address for SA cache information.
<i>asn</i>	(Optional) Autonomous system (AS) number.
peer <i>peer</i>	(Optional) Specifies the IP address of a peer.
detail	(Optional) Displays detailed information.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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 route

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

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

Syntax Description		
<i>source</i>		Source address for SA cache information.
<i>group</i>		(Optional) Group address for SA cache information.
<i>asn</i>		(Optional) Autonomous system (AS) number.
peer <i>peer</i>		(Optional) Specifies the IP address of a peer.
detail		(Optional) Displays detailed information.
vrf		(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>		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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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.	
<i>vrf-name</i>	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

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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
```

show ip msdp summary

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

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

Syntax Description	Parameter	Description
	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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
```

show ip netstack mroute

To show IPv4 multicast routes in the Network Stack cache, use the **show ip netstack mroute** command.

```
show ip netstack mroute [vrf vrf-name]
```

Syntax Description	vrf vrf-name (Optional) Specifies the VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
---------------------------	---

Defaults	None
-----------------	------

Command Modes	Any command mode
----------------------	------------------

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

Command History	Release	Modification
		This command was introduced.

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

Examples	This example shows how to display multicast routes in the Network Stack cache:
-----------------	--

```
switch(config)# show ip netstack mroute
(0.0.0.0/0, 225.1.1.1/32)
  Software switched packets: 1, bytes: 84
(4.1.1.2/32, 225.1.1.1/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 225.1.1.2/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.2/32), data-created
  Software switched packets: 5, bytes: 420
(0.0.0.0/0, 225.1.1.3/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.3/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 225.1.1.4/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.4/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 225.1.1.5/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.5/32), data-created
```

```
Software switched packets: 2, bytes: 168
(0.0.0.0/0, 226.1.1.1/32)
Software switched packets: 0, bytes: 0
(0.0.0.0/0, 226.2.2.2/32)
Software switched packets: 0, bytes: 0
(0.0.0.0/0, 232.0.0.0/8)
Software switched packets: 0, bytes: 0
switch(config)#
```

show ip pim df

To display information about the designated forwarders (DFs) for IPv4 Protocol Independent Multicast (PIM), use the **show ip pim df** command.

```
show ip pim df [rp-or-group] [vrf {vrf-name | all}]
```

Syntax Description	
<i>rp-or-group</i>	(Optional) RP or group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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 DFs:

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

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

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command does not require a 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

Msg events for PIM Process
1) Event:E_DEBUG, length:38, at 165671 usecs after Sat Apr 12 08:35:02 2008
   [100] : nvdb: transient thread created
2) Event:E_DEBUG, length:38, at 165018 usecs after Sat Apr 12 08:35:02 2008
   [100] : nvdb: create transcient thread
3) Event:E_DEBUG, length:79, at 165014 usecs after Sat Apr 12 08:35:02 2008
   [100] : comp-mts-rx opc - from sap 3061 cmd pim_show_internal_event_hist_com
mand
4) Event:E_DEBUG, length:35, at 63168 usecs after Sat Apr 12 08:34:25 2008
   [100] : nvdb: terminate transaction
5) Event:E_DEBUG, length:46, at 62809 usecs after Sat Apr 12 08:34:25 2008
   [100] : nvdb: pim_show_df_command returned 0x0
```

show ip pim event-history

```

6) Event:E_DEBUG, length:38, at 62676 usecs after Sat Apr 12 08:34:25 2008
   [100] : nvdb: transient thread created

7) Event:E_DEBUG, length:38, at 61971 usecs after Sat Apr 12 08:34:25 2008
   [100] : nvdb: create transcient thread

8) Event:E_DEBUG, length:62, at 61966 usecs after Sat Apr 12 08:34:25 2008
   [100] : comp-mts-rx opc - from sap 3055 cmd pim_show_df_command
9) Event:E_DEBUG, length:50, at 771336 usecs after Sat Apr 12 06:14:41 2008
   [100] : nvdb: _cli_send_my_if_command returned 0x0

10) Event:E_DEBUG, length:63, at 771105 usecs after Sat Apr 12 06:14:41 2008
     [100] : comp-mts-rx opc - from sap 0 cmd _cli_send_my_if_command
<--Output truncated-->
switch(config)#

```

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		
<i>group</i>	(Optional) Group address.	
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<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

Supported Users/Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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
PIM Group-Range Configuration for VRF "default"
Group-range      Mode      RP-address      Shared-tree-only range
232.0.0.0/8      SSM      -               -
switch(config)#
```

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] |
vethernet veth-id | vlan vlan-id}
```

Syntax Description		
brief	(Optional) Specifies a brief format for display.	
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	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 <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.	
vethernet <i>veth-id</i>	Specifies the virtual Ethernet interface. The range is from 1 to 1,048,575.	
vlan <i>vlan-id</i>	Specifies the VLAN. The range is from 1 to 4094.	

Command Default None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
	5.0(2)	Information on Bidirectional Forwarding Detection (BFD) was added.

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
PIM Interface Status for VRF "default"
Interface                IP Address      PIM DR Address  Neighbor  Border
                        Count           Interface
Vlan100                  192.0.2.252    192.0.2.252    0         no
port-channel2000         192.0.2.1      192.0.2.1      1         no
port-channel2001         192.0.2.8      192.0.2.8      1         no
Ethernet1/26             192.0.2.2      192.0.2.2      1         no
Ethernet2/5              192.0.2.3      192.0.2.3      1         no
Ethernet2/6              192.0.2.4      192.0.2.4      1         no
Ethernet2/7              192.0.2.5      192.0.2.5      1         no
Ethernet3/11             192.0.2.6      192.0.2.6      1         no
Ethernet3/12             192.0.2.7      192.0.2.7      1         no
switch#
```

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

```
switch# show ip pim interface ethernet 2/5
PIM Interface Status for VRF "default"
Ethernet2/5, Interface status: protocol-up/link-up/admin-up
  IP address: 192.0.2.3, IP subnet: 192.0.2.0/24
  PIM DR: 192.0.2.3, DR's priority: 1
  PIM neighbor count: 1
  PIM hello interval: 30 secs, next hello sent in: 00:00:20
  PIM neighbor holdtime: 105 secs
  PIM configured DR priority: 1
  PIM border interface: no
  PIM GenID sent in Hellos: 0x36a7d6d1
  PIM Hello MD5-AH Authentication: disabled
  PIM Neighbor policy: none configured
  PIM Join-Prune inbound policy: none configured
  PIM Join-Prune outbound policy: none configured
  PIM BFD enabled: no
  PIM Interface Statistics, last reset: never
  General (sent/received):
    Hellos: 454/453, JPs: 4/0, Asserts: 0/0
    Grafts: 0/0, Graft-Acks: 0/0
    DF-Offers: 0/0, DF-Winners: 0/0, DF-Backoffs: 0/0, DF-Passes: 0/0
  Errors:
    Checksum errors: 0, Invalid packet types/DF subtypes: 0/0
    Authentication failed: 0
    Packet length errors: 0, Bad version packets: 0, Packets from self: 0
    Packets from non-neighbors: 0
    JPs received on RPF-interface: 0
    (*,G) Joins received with no/wrong RP: 0/0
    (*,G)/(S,G) JPs received for SSM/Bidir groups: 0/0
    JPs filtered by inbound policy: 0
    JPs filtered by outbound policy: 0
switch#
```

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] |  
vethernet veth-id | vlan vlan-id] | [neighbor-addr]} [vrf {vrf-name | all | default |  
management}]
```

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.
vethernet <i>veth-id</i>	(Optional) Specifies the virtual Ethernet interface. The range is from 1 to 1,048,575.
vlan <i>vlan-id</i>	Specifies the VLAN. The range is from 1 to 4094.
<i>neighbor-addr</i>	(Optional) IP address of a neighbor.
vrf <i>vrf-name</i>	(Optional) Applies to a virtual routing and forwarding (VRF) instance. 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

Supported Use Roles

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

Command History

Release	Modification
5.0(3)N1(1)	This command was introduced.
5.0(2)	Information on Bidirectional Forwarding Detection (BFD) was added.

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
PIM Neighbor Status for VRF "default"
Neighbor          Interface          Uptime    Expires    DR          Bidir-  BFD
                  Interface          Uptime    Expires    Priority    Capable  State
192.0.2.2         port-channel2000   03:43:40  00:01:21   1          no      n/a
192.0.2.9         port-channel2001   03:43:41  00:01:35   1          no      n/a
192.0.2.1         Ethernet1/26       03:43:44  00:01:33   1          no      n/a
192.0.2.2         Ethernet2/5        03:43:45  00:01:34   1          no      n/a
192.0.2.3         Ethernet2/6        03:43:45  00:01:19   1          no      n/a
192.0.2.4         Ethernet2/7        03:43:45  00:01:39   1          no      n/a
192.0.2.5         Ethernet3/11       03:43:46  00:01:35   1          no      n/a
192.0.2.6         Ethernet3/12       03:43:46  00:01:34   1          no      n/a
switch(config)#
```

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		
<i>group</i>		Group address.
<i>source</i>		(Optional) Source address.
vrf		(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<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

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information.

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
PIM OIF-List for VRF default
(*, 232.0.0.0/8)
  Incoming interface: Null0, RPF nbr 0.0.0.0
  Timeout interval: 66 secs left
  Oif-list (count: 0):
  Timeout-list (count: 0):
```

```
Immediate-list (count: 0):  
Immediate-timeout-list (count: 0):  
Assert-lost-list (count: 0):  
switch(config)#
```

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.
<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

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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
```

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.
<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

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

Command History	Release	Modification
	5.0(3)N1(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
```

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] | vethernet veth-id | vlan vlan-id}
```

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.	
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.	
vethernet <i>veth-id</i>	Specifies the virtual Ethernet interface. The range is from 1 to 1,048,575.	
vlan <i>vlan-id</i>	Specifies the VLAN. The range is from 1 to 4094.	

Command Default None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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
```

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] | vethernet veth-id | vlan vlan-id}
```

Syntax Description	Parameter	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.
	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.
	vethernet <i>veth-id</i>	Specifies the virtual Ethernet interface. The range is from 1 to 1,048,575.
	vlan <i>vlan-id</i>	Specifies the VLAN. The range is from 1 to 4094.

Command Default None

Command Modes Any command mode

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

Command History	Release	Modification
	5.0(3)N1(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
```

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.	
<i>vrf-name</i>	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

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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
```

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	
<i>source</i>	Source address.
<i>group</i>	Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<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

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

Command History	Release	Modification
	5.0(3)N1(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
PIM Routing Table for VRF "default" - 1 entries

(*, 232.0.0.0/8), expires 00:02:15
  Incoming interface: Null0, RPF nbr 0.0.0.0
  Oif-list:          (0) 00000000, timeout-list: (0) 00000000
  Immediate-list:   (0) 00000000, timeout-list: (0) 00000000
  Timeout-interval: 3, JP-holdtime round-up: 3
```

■ show ip pim route

```
switch(config)#
```

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	
<i>group</i>	(Optional) Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>	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

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

Command History	Release	Modification
	5.0(3)N1(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 RPs:

```
switch(config)# show ip pim rp
PIM RP Status Information for VRF "default"
BSR disabled
Auto-RP disabled
BSR RP Candidate policy: None
BSR RP policy: None
Auto-RP Announce policy: None
Auto-RP Discovery policy: None

switch(config)#
```

■ show ip pim rp

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		
<i>group</i>		Group address for RP lookup.
vrf		(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>		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

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

Command History	Release	Modification
	5.0(3)N1(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
```

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	Parameter	Description
	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
	4.1(3)	Changed output to include vPC information when PIM is in vPC mode.

Usage Guidelines This command requires the LAN Base Services license.

Examples This example shows how to display information about IPv4 PIM statistics (if PIM is not in vPC mode, the vPC statistics are not displayed):

```
switch(config)# show ip pim statistics
PIM Global Counter Statistics for VRF:default, last reset: never
Register processing (sent/received):
  Registers: 0/0, Null registers: 0/0, Register-Stops: 0/0
  Registers received and not RP: 0
  Registers received for SSM groups: 0
BSR processing (sent/received):
  Bootstraps: 0/0, Candidate-RPs: 0/0
  BSs from non-neighbors: 0, BSs from border interfaces: 0
  BS length errors: 0, BSs which RPF failed: 0
```

```
BSs received but not listen configured: 0
Cand-RPs from border interfaces: 0
Cand-RPs received but not listen configured: 0
Auto-RP processing (sent/received):
  Auto-RP Announces: 0/0, Auto-RP Discoveries: 0/0
  Auto-RP RPF failed: 0, Auto-RP from border interfaces: 0
  Auto-RP invalid type: 0, Auto-RP TTL expired: 0
  Auto-RP received but not listen configured: 0
General errors:
  Control-plane RPF failure due to no route found: 0
  Data-plane RPF failure due to no route found: 0
  Data-plane no multicast state found: 0
  Data-plane create route state count: 0
vPC packet stats:
  assert requests sent: 0
  assert requests received: 0
  assert request send error: 0
  assert response sent: 0
  assert response received: 0
  assert response send error: 0
  assert stop sent: 0
  assert stop received: 0
  assert stop send error: 0
  rpf-source metric requests sent: 0
  rpf-source metric requests received: 0
  rpf-source metric request send error: 0
  rpf-source metric response sent: 0
  rpf-source metric response received: 0
  rpf-source metric response send error: 0
  rpf-source metric rpf change trigger sent: 0
  rpf-source metric rpf change trigger received: 0
  rpf-source metric rpf change trigger send error: 0
switch(config)#
```

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	
<i>vrf-name</i>	(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

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
	5.0(2)	Information on Bidirectional Forwarding Detection (BFD) was added.

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
PIM Enabled VRF
VRF Name          VRF      Table      Interface  BFD
                  ID       ID          Count      Enabled
default           1        0x00000001 1          no
switch(config)#
```

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

```
switch# show ip pim vrf detail
PIM Enabled VRF
VRF Name          VRF      Table      Interface  BFD
```

```

          ID      ID      Count      Enabled
default  1        0x00000001  1         no
  State Limit: None
  Register Rate Limit: none
  Shared tree ranges: none
  (S,G)-expiry timer: not configured
  (S,G)-list policy: none
  (S,G)-expiry timer config version 0, active version 0

  Pre-build SPT for all (S,G)s in VRF: disabled
switch#
```

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 {vrf-name | all | default | management}]
```

Syntax Description	
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.
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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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
Static-route for VRF "default"(1)

IPv4 Unicast Static Routes:

Total number of routes: 0, unresolved: 0
switch(config)#
```

Related Commands	Command	Description
	ip route	Configures a static route.

show ipv6 mld groups

To display information about the Multicast Listener Discovery (MLD) attached-group membership, use the **show ipv6 mld groups** command.

```
show ipv6 [icmp] mld groups [{source [group]} | {group [source]}] [if-type if-number] [vrf
{vrf-name | all}]
```

Syntax Description		
icmp	(Optional)	Specifies ICMPv6 commands.
<i>source</i>		IPv6 source address.
<i>group</i>	(Optional)	IPv6 multicast group address.
<i>if-type</i>	(Optional)	Interface type. For more information, use the question mark (?) online help function.
<i>if-number</i>	(Optional)	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
vrf	(Optional)	Applies to a virtual routing and forwarding (VRF) instance.
<i>vrf-name</i>		VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all		Specifies all VRFs.

Defaults None

Command Modes Any command mode

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about the MLD group membership:

```
switch(config)# show ipv6 mld groups
MLD Connected Group Membership for VRF "default" - 13 total entries (*, ff13::0001)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:25/00:03:54, Last Reporter: fe80::0230:48ff:fe34:0d5b
```

■ show ipv6 mld groups

```
(*, ff13::0002)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:21/00:03:58, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0003)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:22/00:03:57, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0004)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:23/00:03:56, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0005)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:24/00:03:55, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0006)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:25/00:03:54, Last Reporter: fe80::0230:48ff:fe34:0d5b

(*, ff13::0007)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:27/00:03:52, Last Reporter: fe80::0230:48ff:fe34:0d5b
switch(config)#
```

show ipv6 mld local-groups

To display information about the local group membership for Multicast Listener Discovery (MLD), use the **show ipv6 mld local-groups** command.

```
show ipv6 [icmp] mld local-groups [if-type if-number] [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	icmp	(Optional) Specifies ICMPv6 commands.
	<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
	all	Specifies all VRFs.

Defaults None

Command Modes Any command mode

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

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

```
switch(config)# show ipv6 mld local-groups
MLD Locally Joined Group Membership for VRF "default"
Group   Type   Interface   Last Reported
(*, ff13::0001)
        Local   Eth2/1      00:00:55
(*, ff13::0002)
        Local   Eth2/1      00:00:46
(*, ff13::0003)
```

■ show ipv6 mld local-groups

```
      Local   Eth2/1   00:00:54
(*, ff13::0004)
      Local   Eth2/1   00:00:51
(*, ff13::0005)
      Local   Eth2/1   00:00:49
(*, ff13::0006)
      Local   Eth2/1   00:00:46
(*, ff13::0007)
      Local   Eth2/1   00:00:54
(*, ff13::0008)
      Local   Eth2/1   00:00:52
(*, ff13::0009)
      Local   Eth2/1   00:00:50
(*, ff13::0010)
      Local   Eth2/1   00:00:48
(*, ff14::0001)
      Local   Eth2/1   00:00:46
(*, ff1e::0001)
      Local   Eth2/1   00:00:55
(*, ff1e::0002)
      Static  Lo22     03:47:54
switch(config)#
```

show ipv6 mroute

To display information about IPv6 multicast routes, use the **show ipv6 mroute** command.

```
show ipv6 mroute { group | { source group } | { group [source] } } [summary [software-forwarded]]
[vrf { vrf-name | all }]
```

Syntax Description	
<i>group</i>	Group address for route.
<i>source</i>	Source address for route.
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.
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.

Defaults None

Command Modes Any command mode

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about multicast routes:

```
switch(config)# show ipv6 mroute
IPv6 Multicast Routing Table for VRF "default"

(*, ff30::/32), uptime: 1d02h, pim6 ipv6
  Incoming interface: Null, RPF nbr: 0::
  Outgoing interface list: (count: 0)

switch(config)#
```

■ show ipv6 mroute

Related Commands	Command	Description
	show ipv6 mroute summary	Displays summary information about IPv6 multicast routes.

show ipv6 mroute summary

To display summary information about IPv6 multicast routes, use the **show ipv6 mroute summary** command.

```
show ipv6 mroute summary [count | software-forwarded] [vrf {vrf-name | all}]
```

```
show ipv6 mroute {group} summary [software-forwarded] [vrf {vrf-name | all}]
```

Syntax Description	Parameter	Description
	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.
	<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
	all	Specifies all VRFs.
	<i>group</i>	Specifies a group address for a route.

Defaults None

Command Modes Any command mode

Supported Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display summary information about multicast routes:

```
switch(config)# show ipv6 mroute summary
IPv6 Multicast Routing Table for VRF "default"

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

■ show ipv6 mroute summary

```
Group: ff30::/32, Source count: 0
Source          packets      bytes          aps    pps          bit-rate  oifs
(*,G)          0              0              0      0            0 bps    0
switch(config)#
```

Related Commands

Command	Description
show ipv6 mroute	Displays information about IPv6 multicast routes.

show ipv6 pim df

To display information about the designated forwarders (DFs) for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim df** command.

```
show ipv6 pim df [rp-or-group] [vrf {vrf-name | all}]
```

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

Defaults None

Command Modes Any command mode

Supported User Roles

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6 DFs:

```
switch(config)# show ipv6 pim df
Bidir-PIM6 Designated Forwarder Information for VRF "default"

RP Address (ordinal)  RP Metric      Group Range
0001:::0001 (7)
                    [0/0]         ff00::/8

  Interface  DF Address      DF State  DF Metric  DF Uptime
* Lo1       0::             Lose      [0/0]     00:00:02
switch(config)#
```

show ipv6 pim event-history

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

show ipv6 pim event-history {errors | msgs | statistics}

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

Defaults None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to display information in the PIM6 msgs event history buffer:

```
switch(config)# show ipv6 pim event-history msgs
Note: PIM6 process currently not running
switch(config)#
```

Related Commands	Command	Description
	clear ipv6 pim event-history	Clears the contents of the PIM6 event history buffers.
	ipv6 pim event-history	Configures the size of PIM6 event history buffers.

show ipv6 pim group-range

To display information about IPv6 Protocol Independent Multicast (PIM6) group ranges, use the **show ipv6 pim group-range** command.

```
show ipv6 pim group-range [group] [vrf {vrf-name | all}]
```

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

Defaults None

Command Modes Any command mode

Supported User Roles

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6 group ranges:

```
switch(config)# show ipv6 pim group-range
PIM6 Group-Range Configuration for VRF "default"
Group-range          Mode      RP-address          Shared-tree-only range
ff30::/32            SSM      -                   -
ff1e:abcd:def1::/96  ASM      2001:0db8:0000:abcd::0001
                                                              -
switch(config)#
```

show ipv6 pim interface

To display information about the enabled interfaces for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim interface** command.

```
show ipv6 pim interface [brief] [vrf {vrf-name | all}]
```

```
show ipv6 pim interface if-type if-number
```

Syntax Description	Parameter	Description
	brief	(Optional) Specifies a brief format for display.
	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
	all	Specifies all VRFs.
	<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.
	<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

Defaults None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6-enabled interfaces:

```
switch(config)# show ipv6 pim interface
PIM6 Interface Status for VRF "default"
Ethernet2/12, Interface status: protocol-down/link-down/admin-down
  IPv6 address: none
  PIM6 DR: 0::, DR's priority: ?
  PIM6 neighbor count: 0
```

```
PIM6 hello interval: 23 secs (configured 22222 ms), next hello sent in: 00:00:08
PIM6 neighbor holdtime: 81 secs
PIM6 configured DR priority: 1
PIM6 border interface: no
PIM6 GenID sent in Hellos: 0x144b4667
PIM6 Hello MD5-AH Authentication: disabled
PIM6 Neighbor policy: none configured
PIM6 Join-Prune policy: none configured
PIM6 Interface Statistics, last reset: never
  General (sent/received):
    Hellos: 0/0, JPs: 0/0, Asserts: 0/0
    Grafts: 0/0, Graft-Acks: 0/0
    DF-Offers: 0/0, DF-Winners: 0/0, DF-Backoffs: 0/0, DF-Passes: 0/0
  Errors:
    Checksum errors: 0, Invalid packet types/DF subtypes: 0/0
    Authentication failed: 0
    Packet length errors: 0, Bad version packets: 0, Packets from self: 0
    Packets from non-neighbors: 0
    JPs received on RPF-interface: 0
    (*,G) Joins received with no/wrong RP: 0/0
    (*,G)/(S,G) JPs received for SSM/Bidir groups: 0/0
    JPs policy filtered: 0
switch(config)#
```

show ipv6 pim neighbor

To display information about IPv6 Protocol Independent Multicast (PIM6) neighbors, use the **show ipv6 pim neighbor** command.

show ipv6 pim neighbor {[*if-type if-number*] | [*neighbor-addr*]} [**vrf** {*vrf-name* | **all**}]

Syntax Description		
<i>if-type</i>	(Optional) Interface type. For more information, use the question mark (?) online help function.	
<i>if-number</i>	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.	
<i>neighbor-addr</i>	(Optional) IPv6 address of a neighbor.	
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.	
<i>vrf-name</i>	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.	
all	Specifies all VRFs.	

Defaults None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6 neighbors:

```
switch(config)# show ipv6 pim neighbor
PIM6 Neighbor Status for VRF "default"
Neighbor Address          Interface      Uptime      Expires     DR      Bidir
                          Pri
fe80::0230:48ff:fe34:0d67  Eth2/1       00:00:39   00:01:34   1      yes
  Secondary addresses:
    0001::0002
switch(config)#
```

show ipv6 pim oif-list

To display information about IPv6 Protocol Independent Multicast (PIM6) interfaces for a group, use the **show ipv6 pim oif-list** command.

```
show ipv6 pim oif-list group [source] [vrf {vrf-name | all}]
```

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

Defaults None

Command Modes Any command mode

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display PIM6 interfaces for a group:

```
switch(config)# show ipv6 pim oif-list ff1e::0002
PIM6 OIF-List for VRF default
(*, ff1e::0002/128)
  Incoming interface: Ethernet2/2, RPF nbr 0002::0002
  Timeout interval: 45 secs left
  Oif-list (count: 2):
    Ethernet8/11, uptime: 00:01:18, pim6
    Ethernet8/11, uptime: 00:01:18, pim6
  Timeout-list (count: 0):
  Immediate-list (count: 0):
  Immediate-timeout-list (count: 0):
switch(config)#
```

show ipv6 pim policy statistics jp-policy

To display information about the join-prune policy statistics for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim policy statistics j-policy** command.

show ipv6 pim policy statistics jp-policy *if-type if-number*

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

Defaults None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6 policy statistics:

```
switch(config)# show ipv6 pim policy statistics jp-policy ethernet 2/2
C: No. of comparisons, M: No. of matches

route-map rmap1 permit 10
  match ipv6 multicast group ffile::/128                C: 0      M: 0

Total accept count for policy: 2
Total reject count for policy: 0
switch(config)#
```

show ipv6 pim policy statistics neighbor-policy

To display information about the neighbor policy statistics for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim policy statistics neighbor-policy** command.

show ipv6 pim policy statistics neighbor-policy *if-type if-number*

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

Defaults None

Command Modes Any command mode

Supported Users/Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6 policy statistics:

```
switch(config)# show ipv6 pim policy statistics neighbor-policy ethernet 2/2
C: No. of comparisons, M: No. of matches

route-map rmap2 permit 10
  match ipv6 multicast group ff1e::/128                                C: 0      M: 0

Total accept count for policy: 2
Total reject count for policy: 0
switch(config)#
```

show ipv6 pim route

To display information about IPv6 Protocol Independent Multicast (PIM6) routes, use the **show ipv6 pim route** command.

```
show ipv6 pim route { source group | group [source] } [vrf { vrf-name | all }]
```

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

Defaults	
	None

Command Modes	
	Any command mode

Supported Use Roles	
	network-admin network-operator vdc-admin vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines	
	This command requires the Enterprise Services license.

Examples	
	This example shows how to display PIM6 routes:

```
switch(config)# show ipv6 pim route
PIM6 Routing Table for VRF "default" - 1 entries

(*, ff30::/32), expires 00:02:33
  Incoming interface: Null, RPF nbr 0::
  Oif-list:          (0) 00000000, timeout-list: (0) 00000000
  Immediate-list:   (0) 00000000, timeout-list: (0) 00000000
  Timeout-interval: 2, JP-holdtime round-up: 3

switch(config)#
```

show ipv6 pim rp

To display information about IPv6 Protocol Independent Multicast (PIM) RPs, use the **show ipv6 pim rp** command.

```
show ipv6 pim rp [group] [vrf {vrf-name | all}]
```

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

Defaults None

Command Modes Any command mode

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6 RPs:

```
switch(config)# show ipv6 pim rp
PIM6 RP Status Information for VRF "default"
BSR: 0::, uptime: 1d01h, expires: now,
      priority: 0, hash-length: 0
Auto-RP disabled
BSR RP Candidate policy: None
BSR RP policy: None
Auto-RP Announce policy: None
Auto-RP Discovery policy: None

RP: 2001:0db8:0000:abcd::0001, (0), uptime: 1d01h, expires: 0.000000,
    priority: 0, RP-source: (local), group ranges:
      ffile:abcd:def1::/96
switch(config)#
```

show ipv6 pim rp-hash

To display information about the RP-hash values for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim rp-hash** command.

```
show ipv6 pim rp-hash group [vrf {vrf-name | all}]
```

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

Defaults None

Command Modes Any command mode

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6 RP-hash values:

```
switch(config)# show ipv6 pim rp-hash
PIM6 Hash Information for VRF "default"
PIM6 RPs for group ffile::0001, using hash-length: 126 from BSR: 0001::0001
  RP 0002::0001, hash: 1329585728 (selected)

show ip igmp snooping explicit-tracking
-----
switch# show ip igmp snooping explicit-tracking vlan 33
IGMPv3 Snooping Explicit-tracking information
Source/Group          Intf      Reporter      Uptime      Last-Join Expires
1.1.1.1 232.1.1.1      Eth2/1      3.3.3.3      00:01:33    00:04:27
switch(config)#
```

show ipv6 pim statistics

To display information about the packet counter statistics for IPv6 Protocol Independent Multicast (PIM6), use the **show ipv6 pim statistics** command.

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

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

Defaults None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6 statistics:

```
switch(config)# show ipv6 pim statistics
PIM6 Global Counter Statistics for VRF:default, last reset: never
  Register processing (sent/received):
    Registers: 0/0, Null registers: 0/0, Register-Stops: 0/0
    Registers received and not RP: 0
    Registers received for SSM/Bidir groups: 0/0
  BSR processing (sent/received):
    Bootstraps: 0/0, Candidate-RPs: 0/0
    BSs from non-neighbors: 0, BSs from border interfaces: 0
    BS length errors: 0, BSs which RPF failed: 0
    BSs received but not listen configured: 0
    Cand-RPs from border interfaces: 0
    Cand-RPs received but not listen configured: 0
  Auto-RP processing (sent/received):
    Auto-RP Announces: 0/0, Auto-RP Discoveries: 0/0
    Auto-RP RPF failed: 0, Auto-RP from border interfaces: 0
```

■ show ipv6 pim statistics

```
Auto-RP invalid type: 0, Auto-RP TTL expired: 0
Auto-RP received but not listen configured: 0
General errors:
Control-plane RPF failure due to no route found: 1
Data-plane RPF failure due to no route found: 0
Data-plane no multicast state found: 0
Data-plane create route state count: 0
switch(config)#
```

show ipv6 pim vrf

To display information about IPv6 Protocol Independent Multicast (PIM6) by virtual routing and forwarding (VRF) instance, use the **show ipv6 pim vrf** command.

show ipv6 pim vrf [*vrf-name* | **all**]

Syntax Description	
<i>vrf-name</i>	(Optional) VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	(Optional) Specifies all VRFs.

Defaults None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about PIM6 by VRF:

```
switch(config)# show ipv6 pim vrf

switch(config)#
```

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-debug | 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-debug	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

Supported Use Roles

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

Command History	Release	Modification
	5.0(3)N1(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(config)# show routing ip multicast event-history msgs
```

```
Msg events for MRIB Process
```

```
1) Event:E_DEBUG, length:38, at 932956 usecs after Sat Apr 12 09:09:41 2008
   [100] : nvdb: transient thread created
```

```
2) Event:E_DEBUG, length:38, at 932269 usecs after Sat Apr 12 09:09:41 2008
   [100] : nvdb: create transient thread
```

```

3) Event:E_DEBUG, length:75, at 932264 usecs after Sat Apr 12 09:09:41 2008
   [100] : comp-mts-rx opc - from sap 3210 cmd mrib_internal_event_hist_command
4) Event:E_MTS_RX, length:60, at 362578 usecs after Sat Apr 12 09:08:51 2008
   [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X000F217E, Ret:SUCCESS
   Src:0x00000101/214, Dst:0x00000101/1203, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x000F217B, Sync:NONE, Payloadsize:148
   Payload:
   0x0000: 01 00 00 00 05 00 01 00 00 04 00 00 00 00 00
5) Event:E_MTS_RX, length:60, at 352493 usecs after Sat Apr 12 09:07:51 2008
   [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X000F188B, Ret:SUCCESS
   Src:0x00000101/214, Dst:0x00000101/1203, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x000F1888, Sync:NONE, Payloadsize:148
   Payload:
   0x0000: 01 00 00 00 05 00 01 00 00 04 00 00 00 00 00
6) Event:E_MTS_RX, length:60, at 342641 usecs after Sat Apr 12 09:06:51 2008
   [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X000F0DF0, Ret:SUCCESS
   Src:0x00000101/214, Dst:0x00000101/1203, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x000F0DED, Sync:NONE, Payloadsize:148
   Payload:
   0x0000: 01 00 00 00 05 00 01 00 00 04 00 00 00 00 00
7) Event:E_MTS_RX, length:60, at 332954 usecs after Sat Apr 12 09:05:51 2008
   [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X000F0493, Ret:SUCCESS
<--Output truncated-->
switch(config)#

```

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 hardware proxy layer-3 detail

To display detail proxy Layer 3 forwarding information, use the **show hardware proxy layer-3 detail** command.

show hardware proxy layer-3 detail

Syntax Description This command has no arguments or keywords.

Defaults None

Command Modes EXEC

Supported Use Roles network-admin
vdc-admin

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

Usage Guidelines This command does not require a license.

This command applies only to Cisco Nexus 7000 Series chassis that contain an F1 Series module or an M1 Series module. This command applies when you are running either FabricPath or Ethernet interfaces.

Examples This example shows how to display detail proxy Layer 3 forwarding information:

```
switch# show hardware proxy layer-3 detail
switch#
```

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

show routing ipv6 multicast

To display information about IPv6 multicast routes, use the **show routing ipv6 multicast** command.

```
show routing ipv6 multicast [vrf {vrf-name | all}] [{source group} | {group [source]}]
```

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

Defaults None

Command Modes Any command mode

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command requires the Enterprise Services license.

Examples This example shows how to display information about IPv6 multicast routes:

```
switch(config)# show routing ipv6 multicast
IPv6 Multicast Routing Table for VRF "default"
switch(config)#
```

show routing ipv6 multicast clients

To display information about IPv6 multicast routing clients, use the **show routing ipv6 multicast clients** command.

show routing ipv6 multicast clients [*client-name*]

Syntax Description	<i>client-name</i> (Optional) One of the following multicast routing client names: <ul style="list-style-type: none"> • m6rib • icmpv6 • ipv6 • static • pim6
---------------------------	--

Defaults	None
-----------------	------

Command Modes	Any command mode
----------------------	------------------

Supported Use Roles	network-admin network-operator vdc-admin vdc-operator
----------------------------	--

Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>5.0(3)N1(1)</td> <td>This command was introduced.</td> </tr> </tbody> </table>	Release	Modification	5.0(3)N1(1)	This command was introduced.
Release	Modification				
5.0(3)N1(1)	This command was introduced.				

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

Examples	<p>This example shows how to display information about IPv6 multicast routing clients:</p> <pre>switch(config)# show routing ipv6 multicast clients icmpv6 IPv6 Multicast Routing Client information Client: icmpv6, client-id: 2, pid: 3742, mts-sap: 282 Shared-memory: icmpv6, wants notifications Protocol is join-group owner Join notifications: sent 1, fail 0, ack rcvd 1 Prune notifications: sent 0, fail 0, ack rcvd 0 RPF notifications: sent 0, fail 0, ack rcvd 0 Delete notifications: sent 0, fail 0, ack rcvd 0 Clear mroute notifications: sent 0, fail 0 Add route requests: rcvd 0, ack sent 0, ack fail 0</pre>
-----------------	--

```
Delete route requests:      rcvd 0, ack sent 0, ack fail 0
switch(config)#
```

show routing ipv6 multicast event-history

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

```
show routing ipv6 multicast event-history {cli | errors | mfdm | mfdm-stats | msgs | rib |
statistics | vrf}
```

Syntax Description	cli	Displays the event history buffer of type CLI.
	errors	Displays the event history buffer of type errors.
	mfdm	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).

Defaults None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines This command does not require a license.

Examples This example shows how to display information in the M6RIB msgs event history buffer:

```
switch(config)# show routing ipv6 multicast event-history msgs
```

```
Msg events for M6RIB Process
```

```
1) Event:E_DEBUG, length:38, at 269000 usecs after Tue Jan 6 18:45:50 2009
   [100] : nvdb: transient thread created
```

```
2) Event:E_DEBUG, length:38, at 267467 usecs after Tue Jan 6 18:45:50 2009
   [100] : nvdb: create transient thread
```

```

3) Event:E_DEBUG, length:76, at 267461 usecs after Tue Jan 6 18:45:50 2009
   [100] : comp-mts-rx opc - from sap 3389 cmd m6rib_internal_event_hist_command
4) Event:E_MTS_RX, length:60, at 335251 usecs after Tue Jan 6 18:45:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X00049141, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x0004913F, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
5) Event:E_MTS_RX, length:60, at 325401 usecs after Tue Jan 6 18:44:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X000489A2, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x000489A0, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
6) Event:E_MTS_RX, length:60, at 315289 usecs after Tue Jan 6 18:43:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X00048457, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x00048455, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
7) Event:E_MTS_RX, length:60, at 305189 usecs after Tue Jan 6 18:42:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X00047EFD, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x00047EFB, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
8) Event:E_MTS_RX, length:60, at 295210 usecs after Tue Jan 6 18:41:21 2009
   [RSP] Opc:MTS_OPC_MFDM_V6_ROUTE_STATS(75786), Id:0X0004794F, Ret:SUCCESS
   Src:0x00000901/214, Dst:0x00000901/1606, Flags:None
   HA_SEQNO:0X00000000, RRtoken:0x0004794D, Sync:NONE, Payloadsize:268
   Payload:
   0x0000: 01 00 00 80 05 00 01 00 00 08 00 00 00 00 00 00
switch(config)#

```

Related Commands

Command	Description
ipv6 routing multicast event-history	Configures the size of the IPv6 M6RIB event history buffers.
clear ipv6 routing multicast event-history	Clears information in the IPv6 M6RIB 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.
<i>vrf-name</i>	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.
<i>source</i>	Source address for routes.
<i>group</i>	Group address for routes.

Command Default None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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 routing multicast
IP Multicast Routing Table for VRF "default"

(*, 232.0.0.0/8), uptime: 05:11:19, pim ip
  Incoming interface: Null, RPF nbr: 0.0.0.0
  Outgoing interface list: (count: 0)
```

```
switch(config)#
```

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.
<i>client-name</i>	(Optional) One of the following multicast routing client names: <ul style="list-style-type: none"> • mrib • igmp • static • msdp • ip • pim

Command Default None

Command Modes Any command mode

Supported Use Roles network-admin
network-operator
vdc-admin
vdc-operator

Command History	Release	Modification
	5.0(3)N1(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(config)# show routing multicast clients pim
IP Multicast Routing Client information

Client: pim, client-id: 5, pid: 5296, mts-sap: 310
  Shared-memory: pim, Notifications: joins prunes rpf delete repopulate
  Protocol is ssm owner, bidir owner, shared-only mode 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(config)#
```

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
----------------------	------------------

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

Command History	Release	Modification
	5.0(3)N1(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 IGMP running-system configuration:
-----------------	--

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

!Command: show running-config igmp
!Time: Fri May 2 08:05:08 2008

version 5.0(3)N1(1)

interface Ethernet1/5
 ip igmp static-oif 230.0.0.0

switch(config)#
```

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
----------------------	------------------

Supported Use Roles	network-admin network-operator vdc-admin vdc-operator
----------------------------	--

Command History	Release	Modification
	5.0(3)N1(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

!Command: show running-config msdp
!Time: Sat Apr 12 09:14:49 2008

version 5.0(3)N1(1)
feature msdp

switch(config)#
```

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
----------------------	------------------

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

Command History	Release	Modification
	5.0(3)N1(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

!Command: show running-config pim
!Time: Sat Apr 12 09:15:11 2008

version 5.0(3)N1(1)
feature pim

ip pim ssm range 232.0.0.0/8

interface Vlan20
 ip pim sparse-mode

switch(config)#
```

show running-config pim6

To display information about the running-system configuration for IPv6 Protocol Independent Multicast (PIM6), use the **show running-config pim6** command.

show running-config pim6 [all]

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

Defaults	None
-----------------	------

Command Modes	Any command mode
----------------------	------------------

Supported Use Roles	network-admin network-operator vdc-admin vdc-operator
----------------------------	--

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

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

Examples	This example shows how to display information about the PIM6 running-system configuration:
-----------------	--

```
switch(config)# show running-config pim6
version 4.0(3)
feature pim6
ipv6 pim bidir-rp-limit 3
ipv6 pim rp-address 2001:0db8::abcd:0000:0000:0001 group-list ff1e:abcd:def1::/96
ipv6 pim rp-candidate Ethernet2/11 group-list ff1e:abcd:def1::/24
ipv6 pim register-policy my_register_policy
ipv6 pim ssm range ff30::/32
ipv6 pim flush-routes

interface Ethernet2/12
  ipv6 pim sparse-mode
  ipv6 pim hello-interval 22222

switch(config)#
```

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
----------------------	------------------

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

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base Services license.
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Examples	This example shows how to display information about the IGMP startup-system configuration: <pre>switch(config)# show startup-config igmp</pre>
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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
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Command Modes	Any command mode
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Supported Use Roles	network-admin network-operator vdc-admin vdc-operator
----------------------------	--

Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base Services license.
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Examples	This example shows how to display information about the startup-system configuration for MSDP: <pre>switch(config)# show startup-config msdp</pre>
-----------------	---

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
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SupportedUseRoles	network-admin network-operator vdc-admin vdc-operator
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Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines	This command requires the LAN Base Services license.
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Examples	This example shows how to display information about the startup-system configuration for IPv4 PIM: <pre>switch(config)# show startup-config pim</pre>
-----------------	--

show startup-config pim6

To display information about the startup-system configuration for IPv6 Protocol Independent Multicast (PIM6), use the **show startup-config pim6** command.

show startup-config pim6 [all]

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

Defaults	None
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Command Modes	Any command mode
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Supported User Roles	network-admin network-operator vdc-admin vdc-operator
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Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.

Usage Guidelines	This command requires the Enterprise Services license.
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Examples This example shows how to display information about the startup-system configuration for PIM6:

```
switch(config)# show startup-config pim6
version 4.0(3)
feature pim6
ipv6 pim bidir-rp-limit 3
ipv6 pim rp-address 2001:0db8::abcd:0000:0000:0001 group-list ff1e:abcd:def1::/96
ipv6 pim rp-candidate Ethernet2/11 group-list ff1e:abcd:def1::/24
ipv6 pim register-policy my_register_policy
ipv6 pim ssm range ff30::/32
ipv6 pim flush-routes

interface Ethernet2/12
  ipv6 pim sparse-mode
  ipv6 pim hello-interval 22222

switch(config)#
```

■ `show startup-config pim6`