



Show Commands

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

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

Examples	This example shows how to display information about Layer 2 IGMP snooping multicast FIB distribution:
	<pre>switch(config)# show forwarding distribution ip igmp snooping</pre>

Related Commands	Command	Description
	test forwarding distribution perf	Tests the forwarding distribution performance of the Forwarding Information Base (FIB).

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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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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	This example shows how to display information about multicast distribution messages:
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```
switch(config)# show forwarding distribution multicast
Number of Multicast FIB Processes Active: 1
Slot      FIB State
  1        ACTIVE
switch#
```

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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

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#
```

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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

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
```

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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
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Command Modes	Any command mode
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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	This example shows how to display information about all the multicast FIB distribution routes:
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```
switch(config)# show forwarding distribution multicast route
IPv4 Multicast Routing Table for table-id: 1
Total number of groups: 5
Legend:
  C = Control Route
```

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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#

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show forwarding multicast outgoing-interface-list

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

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

Syntax Description

<i>index</i>	(Optional) OIF list index. The OIF list index is from 1 to 65535.
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Command Default

None

Command Modes

Any command mode

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.

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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 [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.	
summary	Displays route counts.	

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

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

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 IPv4 multicast FIB routes:
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```
switch# show forwarding multicast route

IPv4 Multicast Routing table table-id:1
Total number of groups: 1
```

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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.

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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
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Command Modes	Any command mode
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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	This example shows how to display information in the IGMP HA event history buffer: <pre>switch(config)# show ip igmp event-history ha</pre> ha events for IGMP process 2008 Apr 12 04:01:32.339950 igmp [4588]: : Router-port PSS entry for vlan 20 updated [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)#
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Review Draft - Cisco Confidential**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.

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show ip igmp groups

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

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

Syntax Description	
<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.
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
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Command Modes	Any command mode
----------------------	------------------

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.

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)#
```

■ show ip igmp groups

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

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show ip igmp interface

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

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

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

Syntax Description		
ethernet	<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.
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

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 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
```

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```

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 Count	Version
Vlan20	20.1.1.3	0.0.0.0	0	v2

```

switch(config)#

```

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show ip igmp local-groups

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

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

Syntax Description		
ethernet <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.
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
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Command Modes	Any command mode
----------------------	------------------

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	This example shows how to display information about IGMP local groups: <pre>switch(config)# show ip igmp local-groups</pre>
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show ip igmp route

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

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

Syntax Description	
<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.
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
----------------------	------------------

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#
```

Review Draft - Cisco Confidential**Related Commands**

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

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

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)#
```

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

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 send
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 send
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

```

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```

cation
2008 Apr 12 06:13:14.662417 igmp [4588]: : Received a STP Topology change notifi
cation, 1 vlans
2008 Apr 12 06:13:14.662412 igmp [4588]: : Received a STP Topology change notifi
cation
2008 Apr 12 06:13:12.642393 igmp [4588]: : Received a STP Topology change notifi
cation, 1 vlans
2008 Apr 12 06:13:12.642388 igmp [4588]: : Received a STP Topology change notifi
cation
2008 Apr 12 06:13:11.946051 igmp [4588]: : Received a STP Topology change notifi
cation, 1 vlans
2008 Apr 12 06:13:11.946046 igmp [4588]: : Received a STP Topology change notifi
cation
<--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.

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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	
Command History	Release	Modification
	5.0(3)N1(1)	This command was introduced.
Usage Guidelines	When you use this command without the optional vlan argument, the system displays information for all VLANs. This command does not require a license.	
Examples	This example shows how to display information about explicit tracking for IGMP snooping for VLAN 33: <pre>switch# show ip igmp snooping explicit-tracking vlan 33</pre>	
Related Commands	Command	Description
	clear ip igmp snooping explicit-tracking vlan	Clears the IGMP snooping explicit host tracking information for VLANs.
	ip igmp snooping explicit-tracking	Enables tracking of IGMPv3 membership reports from individual hosts for each port on a VLAN.

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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

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 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)#
```

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

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 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)#
```

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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	
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	

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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

Command History

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

Usage Guidelines

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

Examples

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

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

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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

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)#
```

Related Commands

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

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show ip mroute summary

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

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

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

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

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

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

Command History	Release	Modification
	5.0(3)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:

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```
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.

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

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: <pre>switch(config)# show ip msdp count</pre>
-----------------	--

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show ip msdp event-history

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Command History

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

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.

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

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: <pre>switch(config)# show ip msdp mesh-group</pre>
-----------------	---

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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

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
```

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

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: <pre>switch(config)# show ip msdp policy statistics sa-policy 192.168.1.10 in</pre>
-----------------	---

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

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
```

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.

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

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: <pre>switch(config)# show ip msdp rpf 192.168.1.10</pre>
-----------------	--

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

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.

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

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: <pre>switch(config)# show ip msdp sa-cache</pre>
----------	---

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.

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

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
```

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show ip msdp summary

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

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

Syntax Description	vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
	<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
----------------------	------------------

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
```

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show ip pim event-history

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Command History

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

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
- 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

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```
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.

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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

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)#
```

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show ip pim interface

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

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

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

Syntax Description

brief	(Optional) Specifies a brief format for display.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
<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.
vlan <i>vlan-id</i>	Specifies the VLAN. The range is from 1 to 4094.

Command Default

None

Command Modes

Any command mode

Command History

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

Usage Guidelines

This command requires the LAN Base Services license.

Examples

This example shows how to display brief information about IPv4 PIM-enabled interfaces:

```
switch# show ip pim interface brief
PIM Interface Status for VRF "default"
Interface          IP Address      PIM DR Address  Neighbor Count  Border 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
```

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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#
```

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show ip pim neighbor

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

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

Syntax Description		
ethernet <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.	
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	(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

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 neighbors:

```
switch(config)# show ip pim neighbor
PIM Neighbor Status for VRF "default"
Neighbor      Interface      Uptime    Expires    DR      Bidir-  BFD
              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
```

■ show ip pim neighbor

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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)#

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

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 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)#
```

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

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: <pre>switch(config)# show ip pim policy statistics auto-rp rp-candidate-policy</pre>
----------	---

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

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
```

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show ip pim policy statistics jp-policy

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

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

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

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

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

Command History	Release	Modification
	5.0(3)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: <pre>switch(config)# show ip pim policy statistics jp-policy ethernet 2/12</pre>
-----------------	--

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show ip pim policy statistics neighbor-policy

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

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

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

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

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

Command History	Release	Modification
	5.0(3)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: <pre>switch(config)# show ip pim policy statistics neighbor-policy ethernet 2/12</pre>
-----------------	---

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

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: <pre>switch(config)# show ip pim policy statistics register-policy vrf all</pre>
-----------------	--

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

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: <pre>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 switch(config)#</pre>
----------	--

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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

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)#
```

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

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: <pre>switch(config)# show ip pim rp-hash 224.1.1.1</pre>
-----------------	---

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show ip pim statistics

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

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

Syntax Description		
vrf	(Optional)	Applies to a virtual routing and forwarding (VRF) instance.
<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

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 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
```

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```
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)#
```

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

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 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
```

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

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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

Command History

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

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.

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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

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

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:0x000000101/214, Dst:0x000000101/1203, 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 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:0x000000101/214, Dst:0x000000101/1203, Flags:None
HA_SEQNO:0X00000000, RRToken:0x000F1888, Sync:NONE, Payloadsize:148

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```

Payload:
0x0000:  01 00 00 00 05 00 01 00 00 04 00 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 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.

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

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)#
```

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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: • mrib • igmp • static • msdp • ip • pim

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

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

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
```

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

```
switch(config)#
```

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show running-config igmp

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

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

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

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

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

Command History	Release	Modification
	5.0(3)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: <pre>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)#</pre>
----------	---

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show running-config msdp

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

show running-config msdp [all]

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

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

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

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

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show running-config pim

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

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

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

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

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

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

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show startup-config igmp

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

show startup-config igmp [all]

Syntax Description	all (Optional) Displays configured and default information.	
Command Default	None	
Command Modes	Any command mode	
Command History	Release	Modification
	5.0(3)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 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	
Command Modes	Any command mode	
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 startup-system configuration for MSDP: <pre>switch(config)# show startup-config msdp</pre>	

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show startup-config pim

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

show startup-config pim [all]

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

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

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

Command History	Release	Modification
	5.0(3)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 startup-system configuration for IPv4 PIM: <pre>switch(config)# show startup-config pim</pre>
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