Show Commands

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

show ip mroute

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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.

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
5.2(1)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 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
5.2(1)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
```

```
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

group	(Optional) Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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*/[*QSFP-module*/]*port* | **port-channel** *channel-number*[.*sub_if-number*] | **vlan** *vlan-id*}

Syntax Description

brief	(Optional) Specifies a brief format for display.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.
default	Specifies the default VRF.
management	Specifies the management VRF.
ethernet *slot*/[*QSFP-module*/]*port*	Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255. The *QSFP-module* number is from 1 to 4. The port number is from 1 to 128. **Note** The *QSFP-module* number applies only to the QSFP+ Generic Expansion Module (GEM).
port-channel *number*	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	Specifies the VLAN. The range is from 1 to 4094.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
6.0(2)N1(2)	Support for the QSFP+ GEM was added.
5.2(1)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  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*/[*QSFP-module/*]*port* | **port-channel** *channel-number*[*.sub_if-number*] | **vlan** *vlan-id*] | [*neighbor-addr*]} [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description

ethernet *slot*/[*QSFP-module/*]*port*	(Optional) Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255. The *QSFP-module* number is from 1 to 4. The port number is from 1 to 128. **Note** The *QSFP-module* number applies only to the QSFP+ Generic Expansion Module (GEM).
port-channel *number*	(Optional) Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	Specifies the VLAN. The range is from 1 to 4094.
neighbor-addr	(Optional) IP address of a neighbor.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
6.0(2)N1(2)	Support for the QSFP+ GEM was added.
5.2(1)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
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

group	Group address.
source	(Optional) Source address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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)#
```

show ip pim policy statistics auto-rp

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

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

Syntax Description

rp-candidate-policy	Specifies candidate-RP messages.
mapping-agent-policy	Specifies mapping agent messages.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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*/[*QSFP-module/*]*port* | **port-channel** *channel-number*[*.sub_if-number*] | **vlan** *vlan-id*}

Syntax Description

ethernet *slot*/[*QSFP-module/*]*port*	Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255. The *QSFP-module* number is from 1 to 4. The port number is from 1 to 128. **Note** The *QSFP-module* number applies only to the QSFP+ Generic Expansion Module (GEM).
port-channel *number*	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	Specifies the VLAN. The range is from 1 to 4094.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
6.0(2)N1(2)	Support for the QSFP+ GEM was added.
5.2(1)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*/[*QSFP-module*/]*port* | **port-channel** *channel-number*[.*sub_if-number*] | **vlan** *vlan-id*}

Syntax Description

ethernet *slot*/[*QSFP-module*/]*port*	Specifies the Ethernet interface and the slot number and port number. The slot number is from 1 to 255. The *QSFP-module* number is from 1 to 4. The port number is from 1 to 128. **Note** The *QSFP-module* number applies only to the QSFP+ Generic Expansion Module (GEM).
port-channel *number*	Specifies the EtherChannel interface and EtherChannel number. The range is from 1 to 4096.
sub_if-number	(Optional) Subinterface number. The range is from 1 to 4093.
vlan *vlan-id*	Specifies the VLAN. The range is from 1 to 4094.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
6.0(2)N1(2)	Support for the QSFP+ GEM was added.
5.2(1)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.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies all VRFs.
default	Specifies the default VRF.
management	Specifies the management VRF.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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

source	Source address.
group	Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name. The name can be a maximum of 32 alphanumeric characters and is case sensitive.
all	Specifies that all VRF entries be cleared from the IPv4 multicast routing table.
default	Specifies that the default VRF entry be cleared from the IPv4 multicast routing table.
management	Specifies that the management VRF entry be cleared from the IPv4 multicast routing table.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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

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

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

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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-hash

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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

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

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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
```

```
    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

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

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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
```

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

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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.

show routing ip multicast event-history

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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 transcient 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 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 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.

show routing multicast

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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.
client-name	(Optional) One of the following multicast routing client names: • mrib • igmp • static • msdp • ip • pim

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
5.2(1)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 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
5.2(1)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 5.2(1)N1(1)
feature pim

ip pim ssm range 232.0.0.0/8

interface Vlan20
  ip pim sparse-mode

switch(config)#
```

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
5.2(1)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:

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