Show Commands

show ipv6 mroute summary

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

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

Syntax Description

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.
all	Specifies all VRFs.
group	Specifies a group address for a route.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ipv6 mroute summary
IPv6 Multicast Routing Table for VRF "default"
Total number of routes: 1
Total number of (*,G) routes: 0
Total number of (S,G) routes: 0
Total number of (*,G-prefix) routes: 1
Group count: 0, rough average sources per group: 0.0
Group: ff30::/32, Source count: 0
Source            packets       bytes           aps   pps       bit-rate  oifs
```

```
(*,G)             0              0               0      0          0 bps      0
switch(config)#
```

Related Commands

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

show ipv6 pim df

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

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

Syntax Description

rp-or-group	(Optional) RP or group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about PIM6 DFs:

```
switch(config)#
show ipv6 pim df
Bidir-PIM6 Designated Forwarder Information for VRF "default"
RP Address (ordinal)   RP Metric       Group Range
0001::0001 (7)
                       [0/0]           ff00::/8
  Interface     DF Address                DF State DF Metric  DF Uptime
* Lo1           0::                       Lose     [0/0]      00:00:02
switch(config)#
```

Related Commands

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

show ipv6 pim event-history

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

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

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

Related Commands

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

show ipv6 pim group-range

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

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

Syntax Description

group	(Optional) Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

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

Related Commands

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

show ipv6 pim interface

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

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

Syntax Description

brief	(Optional) Specifies a brief format for display.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.
if-type	(Optional) Interface type. For more information, use the question mark (?) online help function.
if-number	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ipv6 pim interface
PIM6 Interface Status for VRF "default"
Ethernet2/12, Interface status: protocol-down/link-down/admin-down
  IPv6 address: none
  PIM6 DR: 0::, DR's priority: ?
  PIM6 neighbor count: 0
  PIM6 hello interval: 23 secs (configured 22222 ms), next hello sent in: 00:00:08
```

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

Related Commands

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

show ipv6 pim neighbor

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

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

Syntax Description

if-type	(Optional) Interface type. For more information, use the question mark (?) online help function.
if-number	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
neighbor-addr	(Optional) IPv6 address of a neighbor.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about PIM6 neighbors:

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

Related Commands

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

show ipv6 pim oif-list

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

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

Syntax Description

source	Group address.
group	(Optional) Source address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

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

Related Commands

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

show ipv6 pim policy statistics jp-policy

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ipv6 pim policy statistics jp-policy ethernet 2/2
C: No. of comparisions, M: No. of matches
route-map rmap1 permit 10
  match ipv6 multicast group ff1e::/128                    C: 0      M: 0
Total accept count for policy: 2
Total reject count for policy: 0
switch(config)#
```

Related Commands

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

show ipv6 pim policy statistics neighbor-policy

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ipv6 pim policy statistics neighbor-policy ethernet 2/2
C: No. of comparisions, M: No. of matches
route-map rmap2 permit 10
  match ipv6 multicast group ff1e::/128                    C: 0      M: 0
Total accept count for policy: 2
Total reject count for policy: 0
switch(config)#
```

Related Commands

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

show ipv6 pim route

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

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

Syntax Description

source	Source address.
group	Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display PIM6 routes:

```
switch(
config
)#
show ipv6 pim route
PIM6 Routing Table for VRF "default" - 1 entries
(*, ff30::/32), expires 00:02:33
  Incoming interface: Null, RPF nbr 0::
  Oif-list:       (0) 00000000, timeout-list: (0) 00000000
  Immediate-list: (0) 00000000, timeout-list: (0) 00000000
  Timeout-interval: 2, JP-holdtime round-up: 3
switch(config)#
```

Related Commands

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

show ipv6 pim rp

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

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

Syntax Description

group	(Optional) Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about PIM6 RPs:

```
switch(config)#
show ipv6 pim rp
PIM6 RP Status Information for VRF "default"
BSR: 0::, uptime: 1d01h, expires: now,
      priority: 0, hash-length: 0
Auto-RP disabled
BSR RP Candidate policy: None
BSR RP policy: None
Auto-RP Announce policy: None
Auto-RP Discovery policy: None
RP: 2001:0db8:0000:abcd::0001, (0), uptime: 1d01h, expires: 0.000000,
 priority: 0, RP-source: (local), group ranges:
      ff1e:abcd:def1::/96
switch(config)#
```

Related Commands

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

show ipv6 pim rp-hash

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

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

Syntax Description

group	Group address for the RP lookup.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ipv6 pim rp-hash
PIM6 Hash Information for VRF "default"
PIM6 RPs for group ff1e::0001, using hash-length: 126 from BSR: 0001::0001
  RP 0002::0001, hash: 1329585728 (selected)
show ip igmp snooping explicit-tracking
---------------------------------------
switch# show ip igmp snooping explicit-tracking vlan 33
IGMPv3 Snooping Explicit-tracking information
Source/Group            Intf      Reporter        Uptime    Last-Join Expires
1.1.1.1 232.1.1.1       Eth2/1    3.3.3.3         00:01:33  00:04:27
switch(config)#
```

show ipv6 pim statistics

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

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

Syntax Description

vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about PIM6 statistics:

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

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

Related Commands

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

show ipv6 pim vrf

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

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

Syntax Description

vrf-name	(Optional) VRF name.
all	(Optional) Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

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

Related Commands

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

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** | **mfdm-stats** | **msgs** | **rib** | **statistics** | **vrf**}

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

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

```
switch(config)# show routing ip multicast event-history msgs
Msg events for MRIB Process
1) Event:E_DEBUG, length:38, at 219263 usecs after Wed Jan  7 17:16:45 2009
    [100] : nvdb: transient thread created
2) Event:E_DEBUG, length:38, at 217482 usecs after Wed Jan  7 17:16:45 2009
    [100] : nvdb: create transcient thread
```

```
3) Event:E_DEBUG, length:76, at 217477 usecs after Wed Jan  7 17:16:45 2009
    [100] : comp-mts-rx opc - from sap 27315 cmd mrib_internal_event_hist_command
4) Event:E_MTS_RX, length:60, at 535173 usecs after Wed Jan  7 17:16:36 2009
    [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021C74B, Ret:SUCCESS
    Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
    HA_SEQNO:0X00000000, RRtoken:0x0021C749, Sync:NONE, Payloadsize:120
    Payload:
    0x0000:  01 00 00 00 04 00 01 00 00 04 00 00 00 00 00 00
5) Event:E_MTS_RX, length:60, at 675244 usecs after Wed Jan  7 17:15:47 2009
    [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021C283, Ret:SUCCESS
    Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
    HA_SEQNO:0X00000000, RRtoken:0x0021C281, Sync:NONE, Payloadsize:148
    Payload:
    0x0000:  02 00 00 00 05 00 01 00 00 04 00 00 00 00 00 00
6) Event:E_MTS_RX, length:60, at 525065 usecs after Wed Jan  7 17:15:36 2009
    [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021C1F7, Ret:SUCCESS
    Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
    HA_SEQNO:0X00000000, RRtoken:0x0021C1F5, Sync:NONE, Payloadsize:120
    Payload:
    0x0000:  01 00 00 00 04 00 01 00 00 04 00 00 00 00 00 00
7) Event:E_MTS_RX, length:60, at 665138 usecs after Wed Jan  7 17:14:47 2009
    [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021BCBB, Ret:SUCCESS
    Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
    HA_SEQNO:0X00000000, RRtoken:0x0021BCB9, Sync:NONE, Payloadsize:148
    Payload:
    0x0000:  02 00 00 00 05 00 01 00 00 04 00 00 00 00 00 00
8) Event:E_MTS_RX, length:60, at 515080 usecs after Wed Jan  7 17:14:36 2009
    [RSP] Opc:MTS_OPC_MFDM_V4_ROUTE_STATS(75785), Id:0X0021BC34, Ret:SUCCESS
    Src:0x00000901/214, Dst:0x00000901/1575, Flags:None
    HA_SEQNO:0X00000000, RRtoken:0x0021BC32, Sync:NONE, Payloadsize:120
    Payload:
    0x0000:  01 00 00 00 04 00 01 00 00 04 00 00 00 00 00 00
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 ipv6 multicast

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

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

Syntax Description

vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.
group	Source address for routes.
source	Group address for routes.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

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

Related Commands

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

show routing ipv6 multicast clients

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

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

Syntax Description

client-name	(Optional) One of the following multicast routing client names: • m6rib • icmpv6 • ipv6 • static • pim6

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about IPv6 multicast routing clients:

```
switch(config)#
show routing ipv6 multicast clients icmpv6
IPv6 Multicast Routing Client information
Client: icmpv6, client-id: 2, pid: 3742, mts-sap: 282
  Shared-memory: icmpv6, wants notifications
  Protocol is join-group owner
  Join notifications:         sent 1, fail 0, ack rcvd 1
  Prune notifications:        sent 0, fail 0, ack rcvd 0
  RPF notifications:          sent 0, fail 0, ack rcvd 0
  Delete notifications:       sent 0, fail 0, ack rcvd 0
  Clear mroute notifications: sent 0, fail 0
  Add route requests:         rcvd 0, ack sent 0, ack fail 0
  Delete route requests:      rcvd 0, ack sent 0, ack fail 0
switch(config)#
```

Related Commands

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

show routing ipv6 multicast event-history

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

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

```
switch(config)# show routing ipv6 multicast event-history msgs
Msg events for M6RIB Process
1) Event:E_DEBUG, length:38, at 269000 usecs after Tue Jan  6 18:45:50 2009
    [100] : nvdb: transient thread created
2) Event:E_DEBUG, length:38, at 267467 usecs after Tue Jan  6 18:45:50 2009
```

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

Related Commands

Command	Description
ipv6 routing multicast event-history	Configures the size of the IPv6 M6RIB event history buffers.
clear ipv6 routing multicast event-history	Clears information in the IPv6 M6RIB event history buffers.

show routing multicast

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

show routing [{**ip** | **ipv4**}] **multicast** [**vrf** {*vrf-name* | **all**}] {*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.
all	Specifies all VRFs.
group	Source address for routes.
source	Group address for routes.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise 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"
(*, 239.128.1.0/24), uptime: 1d01h, pim
  Incoming interface: Null, RPF nbr: 0.0.0.0
  Outgoing interface list: (count: 0)
switch(config)#
```

Related Commands

Command	Description
ipv6 routing multicast event-history	Configures the size of the IPv6 M6RIB event history buffers.
clear ipv6 routing multicast event-history	Clears information in the IPv6 M6RIB event history buffers.

show routing multicast 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

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise 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: 6, pid: 3982, mts-sap: 1568
  Shared-memory: pim, wants notifications
  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
```

```
  Clear mroute notifications: sent 0, fail 0
  Add route requests:         rcvd 2, ack sent 2, ack fail 0
  Delete route requests:      rcvd 1, ack sent 1, ack fail 0
switch(config)#
```

Related Commands

Command	Description
ipv6 routing multicast event-history	Configures the size of the IPv6 M6RIB event history buffers.
clear ipv6 routing multicast event-history	Clears information in the IPv6 M6RIB event history buffers.

show 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

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

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

Related Commands

Command	Description
show running-config msdp	Displays the information about the running-system configuration for Multicast Source Discovery Protocol

show running-config msdp

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

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

Syntax Description

all	(Optional) Displays configured and default information.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show running-config msdp
version 4.0(3)
feature msdp
ip msdp originator-id loopback0
ip msdp peer 192.168.1.10 connect-source Ethernet2/11 remote-as 8
ip msdp sa-interval 88
ip msdp reconnect-interval 20
ip msdp group-limit 3 source 172.1.0.0/16
ip msdp group-limit 4000 source 192.168.1.0/24
ip msdp group-limit 4096 source 192.168.1.1/32
ip msdp flush-routes
ip msdp description 192.168.1.10 engineering peer
ip msdp keepalive 192.168.1.10 10 20
ip msdp sa-policy 192.168.1.10 my_sa_policy in
ip msdp mesh-group 192.168.1.10 my_mesh_group
switch(config)#
```

Related Commands

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

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

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show running-config pim
version 4.0(3)
feature pim
ip pim bsr-candidate Ethernet2/11
ip pim rp-address 192.0.2.33 group-list 224.0.0.0/9
ip pim rp-candidate Ethernet2/11 group-list 239.0.0.0/24 priority 3
ip pim auto-rp rp-candidate Ethernet2/12 group-list 239.0.0.0/24
ip pim send-rp-discovery Ethernet2/11 scope 30
ip pim log-neighbor-changes
ip pim bsr rp-candidate-policy my_bsr_rp_candidate_policy
ip pim bsr bsr-policy my_bsr_policy
ip pim auto-rp rp-candidate-policy my_rp_candidate_policy
ip pim auto-rp mapping-agent-policy my_mapping_agent_policy
ip pim ssm range 239.128.1.0/24
ip pim anycast-rp 192.0.2.3 192.0.2.31
ip pim auto-rp listen forward
ip pim state-limit 100000 reserved my_reserved_policy 40000
interface Ethernet2/11
  ip pim sparse-mode
  ip pim dr-priority 5
  ip pim hello-authentication ah-md5 3 78c3e5487bded5df
```

```
  ip pim neighbor-policy my_neighbor_policy
interface Ethernet2/12
  ip pim sparse-mode
switch(config)#
```

Related Commands

Command	Description
show startup-config pim6	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

show running-config pim6

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

show running-config pim6 [**all**]

Syntax Description

all	(Optional) Displays configured and default information.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show running-config pim6
version 4.0(3)
feature pim6
ipv6 pim bidir-rp-limit 3
ipv6 pim rp-address 2001:0db8::abcd:0000:0000:0000:0001 group-list ff1e:abcd:def1::/96
ipv6 pim rp-candidate Ethernet2/11 group-list ff1e:abcd:def1::/24
ipv6 pim register-policy my_register_policy
ipv6 pim ssm range ff30::/32
ipv6 pim flush-routes
interface Ethernet2/12
  ipv6 pim sparse-mode
  ipv6 pim hello-interval 22222
switch(config)#
```

Related Commands

Command	Description
show startup-config pim6	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

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

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

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

Related Commands

Command	Description
show startup-config pim6	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

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

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about the startup-system configuration for MSDP:

```
switch(config)#
show startup-config msdp
version 4.0(3)
feature msdp
ip msdp originator-id loopback0
ip msdp peer 192.168.1.10 connect-source Ethernet2/11 remote-as 8
ip msdp sa-interval 88
ip msdp reconnect-interval 20
ip msdp group-limit 3 source 172.1.0.0/16
ip msdp group-limit 4000 source 192.168.1.0/24
ip msdp group-limit 4096 source 192.168.1.1/32
ip msdp flush-routes
ip msdp description 192.168.1.10 engineering peer
ip msdp keepalive 192.168.1.10 10 20
ip msdp sa-policy 192.168.1.10 my_incoming_sa_policy in
switch(config)#
```

Related Commands

Command	Description
show startup-config pim6	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

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

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about the startup-system configuration for PIM:

```
switch(config)#
show startup-config pim
version 4.0(3)
feature pim
ip pim bsr-candidate Ethernet2/11
ip pim rp-address 192.0.2.33 group-list 224.0.0.0/9
ip pim rp-candidate Ethernet2/11 group-list 239.0.0.0/24 priority 3
ip pim auto-rp rp-candidate Ethernet2/12 group-list 239.0.0.0/24
ip pim send-rp-discovery Ethernet2/11 scope 30
ip pim log-neighbor-changes
ip pim bsr rp-candidate-policy my_bsr_rp_candidate_policy
ip pim bsr bsr-policy my_bsr_policy
ip pim auto-rp rp-candidate-policy my_rp_candidate_policy
ip pim auto-rp mapping-agent-policy my_mapping_agent_policy
ip pim ssm range 239.128.1.0/24
ip pim anycast-rp 192.0.2.3 192.0.2.31
ip pim auto-rp listen forward
ip pim state-limit 100000 reserved my_reserved_policy 40000
interface Ethernet2/11
  ip pim sparse-mode
  ip pim dr-priority 5
  ip pim hello-authentication ah-md5 3 78c3e5487bded5df
```

```
  ip pim neighbor-policy my_neighbor_policy
interface Ethernet2/12
  ip pim sparse-mode
switch(config)#
```

Related Commands

Command	Description
show startup-config pim6	Displays the information about the startup-system configuration for IPv6 Protocol Independent Multicast.

show startup-config pim6

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

show startup-config pim6 [**all**]

Syntax Description

all	(Optional) Displays configured and default information.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about the startup-system configuration for PIM6:

```
switch(config)#
show startup-config pim6
version 4.0(3)
feature pim6
ipv6 pim bidir-rp-limit 3
ipv6 pim rp-address 2001:0db8::abcd:0000:0000:0000:0001 group-list ff1e:abcd:def1::/96
ipv6 pim rp-candidate Ethernet2/11 group-list ff1e:abcd:def1::/24
ipv6 pim register-policy my_register_policy
ipv6 pim ssm range ff30::/32
ipv6 pim flush-routes
interface Ethernet2/12
  ipv6 pim sparse-mode
  ipv6 pim hello-interval 22222
switch(config)#
```

show system internal xbar fabric-flow-control-info

To display the system internal information**, use the show system internal** command.

show system internal xbar *fabric-flow-control-info*

Syntax Description

xbar	Displays the Xbar command.
fabric-flow-control-info	Displays the flow control information.

Command Default

None.

Command Modes

EXEC mode

network-adminvdc-admin

Supported User Roles

network-admin

vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

None.

This command does not require a license.

Examples

This example shows how to display the system internal flow control information:

```
switch# show system internal xbar fabric-flow-control-info
--------------------------------------------------------------------------------
---------------| slot | fabric-flow-control (multicast) | ----------------------
-
--------------------------------------------------------------------------------
                    1     enabled
                    2    disabled
                    3     enabled
                    7     enabled
                    8    disabled
switch#
```

Related Commands

Command	Description
hardware fabric flow-control multicast forced	Configures the fabric flow control on all modules.

show forwarding distribution ip igmp snooping

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information about Layer 2 IGMP snooping multicast FIB distribution:

```
switch(config)#show forwarding distribution ip igmp snooping
Vlan: 1, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
Vlan: 3, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
Vlan: 13, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
```

```
Vlan: 200, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
Vlan: 1001, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 5
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
```

show forwarding distribution ipv6 multicast route

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

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

Syntax Description

table *table_id*	(Optional) Specifies a table ID. The range is from 0x0 to 0xffffffff.
vrf *vrf-name*	(Optional) Specifies a virtual routing and forwarding (VRF) name.
group	(Optional) IPv6 group address.
source	(Optional) IPv6 source address.
summary	(Optional) Specifies route counts.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

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

```
switch(config)#
show forwarding distribution ipv6 multicast route
IPv6 Multicast Routing table table-id:0x80000001
Total number of groups: 5
Legend:
   C = Control Route
   D = Drop Route
   G = Local Group (directly connected receivers)
   O = Drop on RPF Fail
   P = Punt to supervisor
  (*, ff00::/8), RPF Interface: NULL, flags: D
    Received Packets: 0 Bytes: 0
```

```
    Number of Outgoing Interfaces: 0
    Null Outgoing Interface List
  (*, ff01::/16), RPF Interface: NULL, flags: D
    Received Packets: 0 Bytes: 0
    Number of Outgoing Interfaces: 0
    Null Outgoing Interface List
  (*, ff02::/16), RPF Interface: NULL, flags: CP
    Received Packets: 0 Bytes: 0
    Number of Outgoing Interfaces: 0
    Null Outgoing Interface List
  (*, ff11::/16), RPF Interface: NULL, flags: D
    Received Packets: 0 Bytes: 0
    Number of Outgoing Interfaces: 0
    Null Outgoing Interface List
  (*, ff12::/16), RPF Interface: NULL, flags: CP
    Received Packets: 0 Bytes: 0
    Number of Outgoing Interfaces: 0
    Null Outgoing Interface List
switch#
```

show forwarding distribution l2 multicast vlan

To display platform independent database in Layer 2 multicast, use the **show forwarding distribution l2 multicast vlan** command.

show forwarding distribution l2 multicast [**vlan** *vlan-id* [{**group** *grpaddr* [**source** *srcaddr*] | **destination-mac** *dmac*}]]

Syntax Description

vlan-id	(Optional) VLAN ID. The range is from 1 to 3967 and from 4048 to 4093.
group	(Optional) Displays the group specific information.
group-addr	(Optional) Group address.
source	(Optional) Displays the (G,S) specific information.
source-addr	(Optional) Source address.
destination-mac	(Optional) Displays the destination MAC specific information
dmac	(Optional) Destination MAC address.

Command Default

None

Command Modes

Global configuration mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

If the VLAN is configured for MAC based lookup, then the display will show MAC entries, else it will show IP entries.

User can explicitly display an IP (BD,S,G) entry or MAC entry by specifying Group address or MAC address. If the lookup mode is IP and the user specifies MAC, show will return null and prints a message “Snooping lookups in group IP mode”. Similarly If the user specifies MAC and the lookup is IP, show command will return null and prints “Snooping lookups in group MAC mode”

This command does not require a license.

Examples

This example shows how to display platform independent database information for a specific VLAN:

```
switch# show forwarding distribution l2 multicast vlan 1
Vlan: 1, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 1
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
```

Related Commands

Command	Description
show forwarding distribution multicast	Displays the information about multicast distribution messages.

show forwarding distribution multicast

To display information about multicast distribution messages, use the **show forwarding distribution multicast** command.

show forwarding distribution multicast [**messages**]

Syntax Description

messages	(Optional) Displays message information.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information about multicast distribution messages:

```
switch(
config
)#
show forwarding distribution multicast
Number of Multicast FIB Processes Active: 2
Slot     FIB State
   2        ACTIVE
   7        ACTIVE
switch#
```

show forwarding distribution multicast client

To display information about the multicast FIB distribution client, use the **show forwarding distribution multicast client** command.

show forwarding distribution multicast client

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(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 distribution client:

```
switch(config)# show forwarding distribution multicast client
Number of Clients Registered: 3
Client-name  Client-id  Shared Memory Name
m6rib        1          m6rib-mfdm
mrib         2          mrib-mfdm
igmp         3          N/A
switch#
```

Related Commands

Command	Description
show forwarding distribution multicast	Displays the information about multicast distribution messages.

show forwarding distribution multicast outgoing-interface-list

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(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(config)# show forwarding distribution multicast outgoing-interface-list L3
  Outgoing Interface List Index: 1
  Reference Count: 1
  Platform Index: 0x7ffe
  Number of Outgoing Interfaces: 1
    mgmt0
switch#
```

Related Commands

Command	Description
show forwarding distribution multicast	Displays the information about multicast distribution messages.

show forwarding distribution multicast route

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information about all the multicast FIB distribution routes:

```
switch(config)#show forwarding distribution multicast route
IPv4 Multicast Routing Table for table-id: 1
Total number of groups: 4
Legend:
   C = Control Route
   D = Drop Route
   G = Local Group (directly connected receivers)
   O = Drop on RPF Fail
   P = Punt to supervisor
  (*, 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
switch#
```

Related Commands

Command	Description
show forwarding distribution multicast	Displays the information about multicast distribution messages.

show forwarding ipv6 multicast route

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

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

Syntax Description

vrf	(Optional) Displays routes for a specific virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Displays information for all VRFs.
group	(Optional) Specifies multicast IPv6 group address.
group	Multicast IPv6 group address with prefix.
group-addr	Multicast IPv6 group address.
source	Specifies multicast IPv6 source address.
source	Multicast IPv6 source address with prefix.
source-addr	Multicast IPv6 source address.
module *num*	(Optional) Specifies module number.
summary	Displays route counts.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(3)	Added the *group-addr* and *source-addr* arguments.

Usage Guidelines

This command does not require a license.

Note Use the **show forwarding multicast route group** *group-addr* **vrf wildcard** command to display wildcard routes.

Examples

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

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

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

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

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

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

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

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

show forwarding l2 multicast vlan

To display platform independent database in Layer 2 multicast with MFDM information, use the **show forwarding distribution l2 multicast vlan** command.

show forwarding l2 multicast [**vlan** *vlan-id* [{**source** *source-ip* **group** *group-ip* | **destination-mac** *dmac*}] **module** *number*]

Syntax Description

vlan-id	(Optional) VLAN ID. The range is from 1 to 3967 and from 4048 to 4093.
group	(Optional) Displays the group specific information.
group-addr	(Optional) Group address.
source	(Optional) Displays the (G,S) specific information.
source-addr	(Optional) Source address.
destination-mac	(Optional) Displays the destination MAC specific information
dmac	(Optional) Destination MAC address.
module	(Optional) Module
number	(Optional) Slot number. The range is from 0 to 18.

Command Default

None

Command Modes

Global configuration mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command is same as show **forwarding distribution l2 multicast vlan** command but it displays MFDM information. If the VLAN is configured for MAC based lookup, then the display will show MAC entries, else it will show IP entries.

User can explicitly display an IP (BD,S,G) entry or MAC entry by specifying Group address or MAC address. If the lookup mode is IP and the user specifies MAC, show will return null and prints a message “Snooping lookups in group IP mode”. Similarly If the user specifies MAC and the lookup is IP, show command will return null and prints “Snooping lookups in group MAC mode”

This command does not require a license.

Examples

This example shows how to display platform independent database information for a specific VLAN with MFDM information:

```
switch# show forwarding l2 multicast vlan 1
Vlan: 1, Group: 0.0.0.0, Source: 0.0.0.0
  Outgoing Interface List Index: 65535
  Reference Count: 1
  Platform Index: 0x0
  Number of Outgoing Interfaces: 0
```

Related Commands

Command	Description
show forwarding distribution multicast	Displays the information about multicast distribution messages.

show forwarding multicast outgoing-interface-list

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

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

Syntax Description

module *num*	(Optional) Specifies the module number.
[*index*]*num*	(Optional) OIF list index.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(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 outgoing interface (OIF) list:

```
switch(config)#show forwarding multicast outgoing-interface-list
  Outgoing Interface List Index: 65535
  Reference Count: 9
switch(config)#
```

Related Commands

Command	Description
show forwarding distribution multicast	Displays the information about multicast distribution messages.

show forwarding multicast route

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

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

Syntax Description

vrf	(Optional) Displays information for a specified virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Displays information for all VRFs.
ip	(Optional) Specifies IPv4.
ipv4	(Optional) Specifies IPv4.
group	(Optional) Specifies IPv4 multicast group address.
group-addr	IPv4 multicast group address.
group-mask	(Optional) IPv4 multicast group address mask.
group-prefix	(Optional) IPv4 multicast group prefix.
source	(Optional) Specifies IPv4 multicast source address.
source-addr	IPv4 multicast source address.
source-mask	(Optional) IPv4 multicast source address mask.
source-prefix	(Optional) IPv4 multicast source prefix.
module *num*	(Optional) Specifies the module number.
summary	Displays route counts.

Command Default

None

Command Modes

Any command mode

network-adminnetwork-operatorvdc-adminvdc-operator

Command History

Release	Modification
4.0(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 routes:

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

IPv4 Multicast Routing table table-id:1
Total number of groups: 0
Legend:
   C = Control Route
   D = Drop Route
   G = Local Group (directly connected receivers)
   O = Drop on RPF failure
   P = Punt to Supervisor
   W = Wildcard

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

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

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

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

Related Commands

Command	Description
show forwarding distribution multicast	Displays the information about multicast distribution messages.

show hardware proxy layer-3 detail

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

show hardware proxy layer-3 detail

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC

Supported User Roles

network-admin

vdc-admin

Command History

Release	Modification
5.1(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

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

Examples

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

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

Related Commands

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

show ip igmp

To display IGMP status and configuration, use the **show ip igmp** command.

show ip igmp {**groups** | **route**} [{*source* [*group*] | *group* [*source*]}] [*interface*] [**summary**] [**vrf** {*vrf-namevrf-known-name* | **all**}]

Syntax Description

groups	Displays IGMP attached group membership information.
route	Displays IGMP attached group membership information.
source	Source IP address.
group	(Optional) Multicast IP address of single group to display.
interface	Displays port channel interface.
summary	Displays group summary.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
6.1(1)	changed the position of the summary option in the show ip igmp groups and show ip igmp route set of commands (The summary option used to be after the vrf option and now it will be precede it).
4.0(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(config)#
show ip igmp route
IGMP Connected Group Membership for Context "default" - 2 total entries
Type: S - Static, D - Dynamic, L - Local, T - SSM Translated
Group Address      Type Interface            Uptime    Expires   Last Reporter
224.1.1.1          L    GigabitEthernet2/8   00:00:04  00:04:15  1.0.8.3
224.1.1.2          L    GigabitEthernet2/8   00:00:02  00:04:17  1.0.8.3
switch(config)#
```

Related Commands

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

show ip igmp event-history

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information in the IGMP HA event history buffer:

```
switch(config)#
show ip igmp event-history ha
 ha events for IGMP process
1) Event:E_DEBUG, length:44, at 423337 usecs after Mon Dec 22 12:24:49 2008
    [121] : Updated entry in Route count database
2) Event:E_DEBUG, length:45, at 423072 usecs after Mon Dec 22 12:24:49 2008
    [121] : Updating entry in Route count database
3) Event:E_DEBUG, length:49, at 943183 usecs after Mon Dec 22 12:24:41 2008
    [121] : Recovered all route count entries from PSS
4) Event:E_DEBUG, length:38, at 943133 usecs after Mon Dec 22 12:24:41 2008
    [121] : Recovering Route count database
5) Event:E_DEBUG, length:55, at 943124 usecs after Mon Dec 22 12:24:41 2008
    [121] : Attempting IGMP SNOOP database stateful recovery
switch(config)#
```

Related Commands

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

show ip igmp groups

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

show ip igmp groups [{*source* [*group*] | *group* [*source*]}] [*if-type if-number*] [**vrf** {*vrf-name* | **all**}]

Syntax Description

source	Source IP address.
group	(Optional) Multicast IP address of the single group to display.
if-type	(Optional) Interface type. For more information, use the question mark (?) online help function.
if-number	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(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 Context "default" - 2 total entries
Type: S - Static, D - Dynamic, L - Local, T - SSM Translated
Group Address      Type Interface            Uptime    Expires   Last Reporter
224.1.1.1          L    GigabitEthernet2/8   00:00:04  00:04:15  1.0.8.3
```

```
224.1.1.2          L    GigabitEthernet2/8   00:00:02  00:04:17  1.0.8.3
switch(config)#
```

Related Commands

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

show ip igmp interface

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

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

Syntax Description

if-type	Interface type. For more information, use the question mark (?) online help function.
if-number	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
brief	(Optional) Displays one line status per interface.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(3)	Changed output to include vPC information when IGMP is in vPC mode.

Usage Guidelines

This command does not require a license.

Examples

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

```
switch(config)#
show ip igmp interface vlan 5
IGMP Interfaces for VRF "default"
Vlan5, Interface status: protocol-up/link-up/admin-up
  IP address: 2.4.0.4, IP subnet: 2.4.0.0/24
  Active querier: 2.4.0.4, version: 2, next query sent in: 00:01:02
```

```
  Membership count: 0
  Old Membership count 0
  IGMP version: 2, host version: 2
  IGMP query interval: 125 secs, configured value: 125 secs
  IGMP max response time: 10 secs, configured value: 10 secs
  IGMP startup query interval: 31 secs, configured value: 31 secs
  IGMP startup query count: 2
  IGMP last member mrt: 1 secs
  IGMP last member query count: 2
  IGMP group timeout: 260 secs, configured value: 260 secs
  IGMP querier timeout: 255 secs, configured value: 255 secs
  IGMP unsolicited report interval: 10 secs
  IGMP robustness variable: 2, configured value: 2
  IGMP reporting for link-local groups: disabled
  IGMP interface enable refcount: 1
  IGMP Report Policy: None
  IGMP State Limit: None
  IGMP interface statistics:
    General (sent/received):
      v1-reports: 0/0
      v2-queries: 574/574, v2-reports: 0/3, v2-leaves: 0/3
      v3-queries: 0/0, v3-reports: 0/0
    Errors:
      Checksum errors: 0, Packet length errors: 0
      Packets with Local IP as source: 2, 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: vPC Peer
  Interface vPC CFS statistics:
    DR queries sent: 2
    DR queries rcvd: 0
    DR queries fail: 0
    DR updates sent: 4
    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: 2
Interface            IP Address      IGMP Querier    Membership  Version
                                                     Count
Ethernet2/11         192.168.1.222   0.0.0.0         0           v2
Ethernet2/12         unassigned      0.0.0.0         0           v2
switch(config)#
```

Related Commands

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

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 [*if-type if-number*] [**vrf** {*vrf-name* | **all**}]

Syntax Description

if-type	(Optional) Interface type. For more information, use the question mark (?) online help function.
if-number	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

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

```
switch(config)#
show ip igmp local-groups
IGMP Locally Joined Group Membership for VRF "default"
Group Address    Source Address   Type     Interface   Last Reported
230.0.0.0        *                Static   Eth2/11     4d04h
224.0.1.39       *                Local    Eth2/11     4d04h
224.0.1.40       *                Local    Eth2/11     4d04h
switch(config)#
```

Related Commands

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

show ip igmp snooping

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

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

Syntax Description

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

Command Default

Displays all VLANs.

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(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 1
IGMP Snooping information for vlan 1
  IGMP snooping enabled
  IGMP querier none
  Switch-querier disabled
  Explicit tracking enabled
  Fast leave enabled
  Report suppression enabled
  Router port detection using PIM Hellos, IGMP Queries
  Number of router-ports: 0
  Number of groups: 0
switch(config)#
```

Related Commands

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

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

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	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
switch(config)#
```

Related Commands

Command	Description
ip igmp snooping event-history	Configures the size of the IGMP snooping event history buffers.

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

show ip igmp snooping explicit-tracking

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
4.2(2)	This command was changed to make the **vlan** argument optional.

Usage Guidelines

When you use this command without the optional **vlan** argument, the system displays information for all VLANs.

This command does not require a license.

Examples

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

```
switch(config)#
show ip igmp snooping explicit-tracking vlan 33
IGMPv3 Snooping Explicit-tracking information
Source/Group            Intf      Reporter        Uptime    Last-Join Expires
1.1.1.1 232.1.1.1       Eth2/1    3.3.3.3         00:01:33  00:04:27  00:01:44
switch(config)#
```

show ip igmp snooping groups

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(2)	Arguments *source* and *group* were added.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information about 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
33    225.1.1.1          v3   S     Eth2/1
switch(config)#
```

show ip igmp snooping look-up mode

To display IGMP snooping lookup mode information, use the **show ip igmp snooping lookup-mode** command.

show ip igmp snooping look-up mode [**vlan** *vlan-id*]

Syntax Description

vlan	(Optional) Displays the VLAN information.
vlan-id	(Optional) VLAN ID. The range is from 1 to 3967 and from 4048 to 4093.

Command Default

None

Command Modes

Global configuration mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

If the VLAN is configured for MAC based lookup, then the display will show MAC entries, else it will show IP entries.

User can explicitly display an IP (BD,S,G) entry or MAC entry by specifying Group address or MAC address. If the lookup mode is IP and the user specifies MAC, show will return null and prints a message “Snooping lookups in group IP mode”. Similarly If the user specifies MAC and the lookup is IP, show command will return null and prints “Snooping lookups in group MAC mode”

This command does not require a license.

Examples

This example shows how to display IGMP snooping lookup mode information:

```
switch(config)# show ip igmp snooping lookup-mode vlan 1
Global lookup-mode:
  configured : IP
  operational: MAC
VLAN lookup-mode
   1 IP
  10 MAC
  11 IP
switch(config)#
```

Related Commands

Command	Description
show ip igmp snooping mac-oif	Displays the IGMP Snooping static MAC OIF information.

show ip igmp snooping mac-oif

To display IGMP Snooping static MAC OIF information, use the show ip igmp snooping mac-oif command.

show ip igmp snooping mac-oif [**vlan** *vlan-id*] [**detail**]

Syntax Description

[**detail**]	(Optional) Displays the detail static MAC OIF, M2RIB OIF information.
vlan	(Optional) Displays VLAN information.
vlan-id	(Optional) VLAN ID. The range is from 1 to 3967 and from 4048 to 4093.

Command Default

None

Command Modes

Global configuration mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display IGMP snooping MAC OIF information:

```
switch(config)# show ip igmp snooping mac-oif
Total Mac OIF: 0
VLAN Count MAC-ADDR        OIFs
   1     0
switch(config)#
```

This example shows how to display detailed IGMP snooping MAC OIF and M2RIB OIF information:

```
switch(config)# show ip igmp snooping mac-oif detail
Total Mac OIF: 0
VLAN Count MAC-ADDR        OIFs
   1     0
switch(config)#
```

Related Commands

Command	Description
show ip igmp snooping lookup-mode	Displays the IGMP snooping lookup mode information.

show ip igmp snooping mrouter

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(3)	Changed output to include vPC information.

Usage Guidelines

This command does not require a license.

Examples

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

```
switch(config)#
show ip igmp snooping mrouter
Type: S - Static, D - Dynamic, V - vPC Peer Link
Vlan  Router-port   Type     Uptime      Expires
1     Po88          SV       00:00:51    never
2     Po88          SV       00:00:51    never
3     Po88          SV       00:00:51    never
4     Po88          SV       00:00:51    never
5     Vlan5           D      18:02:38    00:04:40
switch(config)#
```

Related Commands

Command	Description
show ip igmp snooping lookup-mode	Displays the IGMP snooping lookup mode information.

show ip igmp snooping querier

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(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
Vlan  IP Address       Version   Port
1     172.20.50.11     v3        fa2/1
2     172.20.40.20     v2        Router
switch(config)#
```

Related Commands

Command	Description
show ip igmp snooping lookup-mode	Displays the IGMP snooping lookup mode information.

show ip igmp snooping statistics

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(3)	Changed output to include vPC information.
4.2(1)	Enhanced output for vPC information.
4.2(2)	Changed command to make the **vlan** argument optional and to introduce the optional **global** argument.

Usage Guidelines

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

This command does not require a license.

Examples

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

```
switch(config)#
show ip igmp snooping statistics vlan 1
Global IGMP snooping statistics:
Packets received: 78
  Packet errors: 0
  Packets for non-snooped vlans : 0
  Packets flooded: 41
  vPC PIM DR queries sent: 0
  vPC PIM DR queries rcvd: 0
  vPC PIM DR queries fail: 0
  vPC PIM DR updates sent: 4
```

```
  vPC PIM DR updates rcvd: 0
  vPC PIM DR updates fail: 0
  vPC CFS send fail: 0
  vPC CFS message response sent: 13
  vPC CFS message response rcvd: 16
  vPC CFS message response fail: 0
  vPC CFS message response fail peer-link down: 0
  vPC CFS unreliable message sent: 35
  vPC CFS unreliable message rcvd: 37
  vPC CFS unreliable message fail: 0
  vPC CFS reliable message sent: 16
  vPC CFS reliable message rcvd: 13
  vPC CFS reliable message fail: 0
  STP TCN messages rcvd: 22
  IM api failed: 0
VLAN 2 IGMP snooping statistics, last reset: never
  Packets received: 29
  IGMPv1 reports received: 0
  IGMPv2 reports received: 13
  IGMPv3 reports received: 0
  IGMPv1 queries received: 0
  IGMPv2 queries received: 14
  IGMPv3 queries received: 0
  IGMPv2 leaves received: 0
  PIM Hellos received: 0
  Invalid reports received: 0
  Invalid queries received: 0
  IGMPv1 reports suppressed: 0
  IGMPv2 reports suppressed: 0
  IGMPv2 leaves suppressed: 0
  IGMPv3 group records suppressed: 0
  Queries originated: 0
  IGMPv2 proxy-reports originated: 0
  IGMPv2 proxy-leaves originated: 0
  IGMPv3 proxy-reports originated: 0
  Packets sent to routers: 13
  STP TCN received: 9
  Report version mismatch: 0
  Unknown packets received: 0
  vPC Peer Link CFS packet statistics:
      IGMP packets (sent/recv/fail): 11/16/0
      MRD updates (sent/recv/fail): 0/0/0
```

Related Commands

Command	Description
show ip igmp snooping lookup-mode	Displays the IGMP snooping lookup mode information.

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.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about multicast routes:

```
switch(config)#
show ip mroute
IP Multicast Routing Table for VRF "default"
(*, 224.1.1.1/32), uptime: 13:00:28, igmp ip pim
  Incoming interface: Loopback1 (iod: 3), RPF nbr: 2.2.2.2
  Outgoing interface list: (count: 1)
    GigEther2/0/1 (iod 4), uptime: 13:00:28, igmp
(*, 226.1.1.1/32), uptime: 13:00:32, igmp ip pim
  Incoming interface: Loopback1 (iod: 3), RPF nbr: 2.2.2.2
```

```
  Outgoing interface list: (count: 1)
    GigEther2/0/1 (iod 4), uptime: 13:00:32, igmp
(*, 228.2.2.2/32), uptime: 13:00:27, igmp ip pim
  Incoming interface: Loopback1 (iod: 3), RPF nbr: 2.2.2.2
  Outgoing interface list: (count: 1)
    GigEther2/0/1 (iod 4), uptime: 13:00:27, igmp
(*, 232.0.0.0/8), uptime: 13:01:27, pim ip
  Incoming interface: Null (iod: 0), RPF nbr: 0.0.0.0
  Outgoing interface list: (count: 0)
switch(config)#
```

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

Related Commands

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

show ip mroute summary

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

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

Syntax Description

count	(Optional) Displays only route counts.
software-forwarded	(Optional) Displays software-switched route counts only.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.
group	Specifies a group address for a route.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ip mroute summary
IP Multicast Routing Table for VRF "default"
Total number of routes: 6
Total number of (*,G) routes: 4
Total number of (S,G) routes: 1
Total number of (*,G-prefix) routes: 1
Group count: 4, rough average sources per group: 0.2
Group: 225.0.0.1/32, Source count: 0
Source            packets       bytes           aps   pps       bit-rate  oifs
(*,G)             0             0               0     0         0 bps     1
```

```
Group: 225.0.1.1/32, Source count: 0
Source            packets       bytes           aps   pps       bit-rate  oifs
(*,G)             0             0               0     0         0 bps     1
Group: 225.1.1.1/32, Source count: 1
Source            packets       bytes           aps   pps       bit-rate  oifs
(*,G)             0             0               0     0         0 bps     4
2.1.1.2           0             0               0     0         0 bps     4
Group: 226.1.1.1/32, Source count: 0
Source            packets       bytes           aps   pps       bit-rate  oifs
(*,G)             0             0               0     0         0 bps     1
Group: 232.0.0.0/8, Source count: 0
Source            packets       bytes           aps   pps       bit-rate  oifs
(*,G)             0             0               0     0         0 bps     0
0 bps     0
switch(config)#
```

Related Commands

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

show ip msdp count

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

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

Syntax Description

asn	(Optional) Autonomous systems (AS) number.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display MSDP counts:

```
switch(config)#
show ip msdp count
 SA State per ASN, context "default" - 2134 total entries
     <asn>: <(S,G) count>/<group count>
      3:     5/4         8:     4/4         9:     7/6        12:     1/1
     14:    18/14       17:     4/3        18:    11/3        25:   331/290
     26:    10/6        27:     1/1        32:     4/4        38:     8/5
     52:    11/2        55:    13/2        59:    12/9        70:     6/4
     73:    10/10       81:    30/13       87:     1/1       103:    11/10
    109:    46/23      111:     1/1       131:    21/3       137:     8/8
    159:     9/6       160:     2/2       194:     2/1       195:     2/1
    217:     1/1       224:    24/13      225:     1/1       237:    38/31
    271:     8/7       291:     1/1       292:     2/2       293:     5/4
    297:     6/6       549:     3/2       553:     1/1       559:    23/18
    668:     2/1       680:    26/21      683:    16/10      704:    18/15
```

```
  766:    18/17      776:     2/2       786:   123/49      818:     2/2
 1103:    46/37     1161:     2/2      1224:    10/8      1239:     9/9
 1273:     1/1      1312:     1/1      1657:     6/6      1706:     7/6
 1725:     1/1      1739:     3/3      1741:    11/11     1742:     6/5
 1835:     1/1      1851:     2/1      1935:     1/1      1998:     6/6
 2055:     7/6      2107:     2/2      2152:     7/5      2200:    46/29
 2259:   168/4      2381:     8/4      2422:     5/5      2594:    25/25
 2607:    64/59     2611:    45/37     2637:     5/4      2701:     1/1
 2852:   117/16     2914:     2/2      3323:     2/2      3582:    27/24
 3676:     7/3      3685:     9/8      3851:     1/1      3912:     5/3
 3948:     1/1      3999:     6/4      4130:     4/4      4201:     5/4
 4385:     9/5      5050:     1/1      5408:     4/3      5520:     3/3
 5640:    26/6      5661:    14/10     5664:     3/3      5719:     2/2
 5739:     1/1      6192:     5/2      6200:     2/2      6263:     8/5
 6360:     3/1      6366:     8/6      6481:    15/12     6509:    31/9
 7082:     4/1      7212:     4/3      7377:    10/9      7539:    63/37
 7570:     3/3      7571:     1/1      7572:     1/1      7575:    20/11
 7610:     1/1      7660:     1/1      7774:     2/1      7896:     2/2
 8071:     5/3      8111:    22/22     9112:     5/2      9270:     2/1
 9821:     1/1     10546:     2/2     10764:     1/1     10886:     2/2
11050:     2/2     11078:     2/1     11279:    13/3     11537:     8/3
11546:     1/1     11808:     1/1     12005:     2/2     12173:     1/1
13476:     1/1     13501:     5/4     14077:     3/3     15474:     1/1
15725:     1/1     16430:     2/1     16517:     2/2     17055:     3/2
18047:    14/14    18062:   111/41    18297:     2/2     20965:    24/1
22168:     2/2     23366:     6/2     23504:     5/1     23719:    11/8
24433:     6/3     24434:     5/2     24437:     1/1     25656:     1/1
25689:     3/3     26002:     5/3     26367:     1/1     26934:     3/3
26971:     1/1     29825:     1/1     32666:     5/5     65028:     1/1
switch(config)#
```

Related Commands

Command	Description
clear ip msdp event-history	Clears the contents of the MSDP event history buffers.

show ip msdp event-history

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

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

```
switch(config)#
show ip msdp event-history msgs
Msg events for MSDP Process
1) Event:E_DEBUG, length:38, at 198828 usecs after Wed Jan  7 17:24:45 2009
    [100] : nvdb: transient thread created
2) Event:E_DEBUG, length:38, at 197333 usecs after Wed Jan  7 17:24:45 2009
    [100] : nvdb: create transcient thread
3) Event:E_DEBUG, length:77, at 197327 usecs after Wed Jan  7 17:24:45 2009
    [100] : comp-mts-rx opc - from sap 27315 cmd msdp_show_internal_event_hist_cmd
4) Event:E_DEBUG, length:35, at 277809 usecs after Wed Jan  7 17:24:40 2009
    [100] : nvdb: terminate transaction
5) Event:E_DEBUG, length:60, at 277696 usecs after Wed Jan  7 17:24:40 2009
    [100] : nvdb: msdp_show_internal_event_hist_cmd returned 0x0
6) Event:E_DEBUG, length:38, at 277243 usecs after Wed Jan  7 17:24:40 2009
    [100] : nvdb: transient thread created
7) Event:E_DEBUG, length:38, at 275631 usecs after Wed Jan  7 17:24:40 2009
    [100] : nvdb: create transcient thread
8) Event:E_DEBUG, length:77, at 275625 usecs after Wed Jan  7 17:24:40 2009
```

```
    [100] : comp-mts-rx opc - from sap 27315 cmd msdp_show_internal_event_hist_cmd
9) Event:E_DEBUG, length:47, at 93136 usecs after Wed Jan  7 17:24:32 2009
    [100] : nvdb: _cli_send_my_command returned 0x0
switch(config)#
```

Related Commands

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

show ip msdp mesh-group

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

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

Syntax Description

mesh-group	(Optional) Mesh group name.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about MSDP mesh groups:

```
switch(config)#
show ip msdp mesh-group
MSDP Mesh-Group Membership for VRF "default"
Mesh-group: my_mesh_group
  Peer: 192.168.1.10, AS: 8, description: engineering peer
```

Related Commands

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

show ip msdp peer

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

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

Syntax Description

peer-address	(Optional) IP address of an MSDP peer.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about MSDP peers:

```
switch(config)#
show ip msdp peer
MSDP peer 192.168.1.10 for VRF "default"
AS 8, local address: 192.168.1.222 (Ethernet2/11)
  Description: engineering peer
  Connection status: Listening
    Uptime(Downtime): 01:14:30
    Last reset reason: Connect source interface address changed
    Password: not set
  Keepalive Interval: 10 sec
  Keepalive Timeout: 20 sec
  Reconnection Interval: 20 sec
  Policies:
    SA in: my_incoming_sa_policy, SA out: none
    SA limit: unlimited
```

```
  Member of mesh-group: my_mesh_group
  Statistics (in/out):
    Last messaged received: never
    SAs: 0/0, SA-Requests: 0/0, SA-Responses: 0/0
    Keepalives: 0/0, Notifications: 0/0
switch(config)#
```

Related Commands

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

show ip msdp policy statistics sa-policy

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

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

Syntax Description

peer-address	IP address of the MSDP peer for the SA policy.
in	Specifies the input policy.
out	Specifies the output policy.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about MSDP SA policies:

```
switch(config)#
show ip msdp policy statistics sa-policy 192.168.1.10 in
C: No. of comparisions, M: No. of matches
route-map rmap1 permit 10
  match ip multicast group 225.1.1.0/24                    C: 0      M: 0
Total accept count for policy: 12
Total reject count for policy: 21
switch(config)#
```

Related Commands

Command	Description
clear ip msdp route	Clears routes in the MSDP Source-Active cache.

show ip msdp route

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

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

Syntax Description

source	Source address for SA cache information.
group	(Optional) Group address for SA cache information.
asn	(Optional) AS number.
peer *peer*	(Optional) Specifies the IP address of a peer.
detail	(Optional) Displays detailed information.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(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 Enterprise Services license.

Examples

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

```
switch(config)#
show ip msdp route
MSDP SA Route Cache for Context "default" - 2138 entries
```

```
Source           Group           RP               ASN    Uptime
24.124.36.130    224.0.1.1       144.228.240.250  1239   17:35:19
64.104.160.29    224.0.1.1       204.69.199.17    109    17:35:19
128.59.21.232    224.0.1.1       128.59.0.51      14     03:33:59
128.117.37.217   224.0.1.1       128.117.243.9    194    04:07:17
128.117.37.220   224.0.1.1       128.117.243.9    194    04:08:45
129.49.88.9      224.0.1.1       199.109.44.1     5719   17:34:48
130.18.14.12     224.0.1.1       192.208.151.9    10546  17:35:19
130.37.20.4      224.0.1.1       145.145.255.6    1103   17:35:21
130.37.20.5      224.0.1.1       145.145.255.6    1103   17:35:21
130.37.20.7      224.0.1.1       145.145.255.6    1103   17:35:21
130.37.64.252    224.0.1.1       145.145.255.6    1103   17:35:21
130.88.20.1      224.0.1.1       194.66.25.224    786    17:35:19
130.159.54.4     224.0.1.1       194.81.62.54     786    17:35:19
130.159.228.48   224.0.1.1       194.81.62.54     786    17:35:19
130.159.248.12   224.0.1.1       194.81.62.54     786    17:35:19
132.234.1.1      224.0.1.1       132.234.251.232  7575   13:40:17
134.174.190.41   224.0.1.1       192.5.66.202     1742   17:34:45
 --More--q
switch(config)#
```

Related Commands

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

show ip msdp rpf

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

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

Syntax Description

rp-address	IP address of the RP.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about MSDP RPF peers:

```
switch(config)#
show ip msdp rpf 192.168.1.10
MSDP RPF-Peer for RP 192.168.1.10, VRF default:
  Mesh-group check:
    Peer 192.168.1.10, mesh-group member of my_mesh_group
  Peer/route-lookup check:
    Peer 192.168.1.10, only MSDP peer configured, peer is RP
switch(config)#
```

Related Commands

Command	Description
clear ip msdp route	Clears routes in the MSDP Source-Active cache.

Command	Description
show ip msdp sa-cache	Displays information about the MSDP SA cache.

show ip msdp sa-cache

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

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

Syntax Description

source	Source address for SA cache information.
group	(Optional) Group address for SA cache information.
asn	(Optional) AS number.
peer *peer*	(Optional) Specifies the IP address of a peer.
detail	(Optional) Displays detailed information.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

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

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ip msdp sa-cache
MSDP SA Route Cache for Context "default" - 2138 entries
```

```
Source           Group           RP               ASN    Uptime
24.124.36.130    224.0.1.1       144.228.240.250  1239   17:35:19
64.104.160.29    224.0.1.1       204.69.199.17    109    17:35:19
128.59.21.232    224.0.1.1       128.59.0.51      14     03:33:59
128.117.37.217   224.0.1.1       128.117.243.9    194    04:07:17
128.117.37.220   224.0.1.1       128.117.243.9    194    04:08:45
129.49.88.9      224.0.1.1       199.109.44.1     5719   17:34:48
130.18.14.12     224.0.1.1       192.208.151.9    10546  17:35:19
130.37.20.4      224.0.1.1       145.145.255.6    1103   17:35:21
130.37.20.5      224.0.1.1       145.145.255.6    1103   17:35:21
130.37.20.7      224.0.1.1       145.145.255.6    1103   17:35:21
130.37.64.252    224.0.1.1       145.145.255.6    1103   17:35:21
130.88.20.1      224.0.1.1       194.66.25.224    786    17:35:19
130.159.54.4     224.0.1.1       194.81.62.54     786    17:35:19
130.159.228.48   224.0.1.1       194.81.62.54     786    17:35:19
130.159.248.12   224.0.1.1       194.81.62.54     786    17:35:19
132.234.1.1      224.0.1.1       132.234.251.232  7575   13:40:17
134.174.190.41   224.0.1.1       192.5.66.202     1742   17:34:45
 --More--q
switch(config)#
```

Related Commands

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

show ip msdp sources

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

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

Syntax Description

vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about MSDP learned sources:

```
switch(config)#
show ip msdp sources
MSDP Learned Sources and Group-Limit Information for VRF "default"
Source           Group Count  Group Limit  Source Prefix       Violations
18.7.25.94       1            unlimited    --                  0
18.39.0.30       1            unlimited    --                  0
18.62.10.96      1            unlimited    --                  0
18.62.10.177     1            unlimited    --                  0
18.89.2.245      1            unlimited    --                  0
24.124.36.130    1            unlimited    --                  0
62.40.98.21      1            unlimited    --                  0
62.40.98.52      1            unlimited    --                  0
62.40.98.75      1            unlimited    --                  0
62.40.98.117     1            unlimited    --                  0
62.40.98.139     1            unlimited    --                  0
62.40.98.140     1            unlimited    --                  0
62.40.98.152     1            unlimited    --                  0
62.40.98.171     1            unlimited    --                  0
```

```
62.40.98.202     1            unlimited    --                  0
62.40.98.212     1            unlimited    --                  0
 --More--q
switch(config)#
```

Related Commands

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

show ip msdp summary

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

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

Syntax Description

vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display summary information about MSDP peers:

```
switch(config)#
show ip msdp summary
MSDP Peer Status Summary for VRF "default"
Local ASN: 0, originator-id: 0.0.0.0
Number of configured peers:  1
Number of established peers: 0
Number of shutdown peers:    0
Peer            Peer        Connection      Uptime/   Last msg  (S,G)s
Address         ASN         State           Downtime  Received  Received
192.168.1.10    8           Listening       01:35:13  never     0
switch(config)#
```

show ip netstack mroute

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

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

Syntax Description

vrf *vrf-name*	(Optional) Specifies the VRF name.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(3)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

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

```
switch(config)#
show ip netstack mroute
(0.0.0.0/0, 225.1.1.1/32)
  Software switched packets: 1, bytes: 84
(4.1.1.2/32, 225.1.1.1/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 225.1.1.2/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.2/32), data-created
  Software switched packets: 5, bytes: 420
(0.0.0.0/0, 225.1.1.3/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.3/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 225.1.1.4/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.4/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 225.1.1.5/32)
  Software switched packets: 0, bytes: 0
(4.1.1.2/32, 225.1.1.5/32), data-created
  Software switched packets: 2, bytes: 168
(0.0.0.0/0, 226.1.1.1/32)
```

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

show ip pim df

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

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

Syntax Description

rp-or-group	(Optional) RP or group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about PIM DFs:

```
switch(config)#
show ip pim df
Bidir-PIM Designated Forwarder Information for VRF "default"
RP Address (ordinal)   DF-bits          RP Metric  Group Range
2.2.2.2 (2)            00000002 (1)     [0/0]      224.128.0.0/9
  Interface            DF Address       DF State   DF Metric    DF Uptime
  Loopback0            1.1.1.1          Winner     [0/0]        00:28:14
  Ethernet2/2          10.2.0.2         Lose       [0/0]        00:28:14
switch(config)#
```

show ip pim event-history

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

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

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

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

```
switch(config)#
show ip pim event-history msgs
Note: PIM process currently not running
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**}]

Syntax Description

group	(Optional) Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about 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
239.128.1.0/24     SSM       -                -
224.0.0.0/9        ASM       192.0.2.33       -
switch(config)#
```

Related Commands

Command	Description
ip pim event-history	Configures the size of PIM event history buffers.

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**}]
show ip pim interface *if-type if-number*

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.
all	Specifies all VRFs.
if-type	Interface type. For more information, use the question mark (?) online help function.
if-number	Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
5.0(2)	Information on Bidirectional Forwarding Detection (BFD) was added.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ip pim interface ethernet 2/11
PIM Interface Status for VRF "default"
Ethernet2/11, Interface status: protocol-down/link-down/admin-up
  IP address: 192.168.1.222, IP subnet: 192.168.1.0/24
  PIM DR: 192.168.1.222, DR's priority: 5
```

```
  PIM neighbor count: 0
  PIM hello interval: 30 secs, next hello sent in: 00:00:03
  PIM neighbor holdtime: 105 secs
  PIM configured DR priority: 5
  PIM border interface: no
  PIM GenID sent in Hellos: 0x112ba48b
  PIM Hello MD5-AH Authentication: enabled
  PIM Neighbor policy: my_neighbor_policy
  PIM Join-Prune policy: none configured
  PIM BFD Enabled: Yes
  PIM Interface Statistics, last reset: never
    General (sent/received):
      Hellos: 3145/0, JPs: 0/0, Asserts: 0/0
      Grafts: 0/0, Graft-Acks: 0/0
      DF-Offers: 0/0, DF-Winners: 0/0, DF-Backoffs: 0/0, DF-Passes: 0/0
    Errors:
      Checksum errors: 0, Invalid packet types/DF subtypes: 0/0
      Authentication failed: 0
      Packet length errors: 0, Bad version packets: 0, Packets from self: 0
      Packets from non-neighbors: 0
      JPs received on RPF-interface: 0
      (*,G) Joins received with no/wrong RP: 0/0
      (*,G)/(S,G) JPs received for SSM/Bidir groups: 0/0
      JPs policy filtered: 0
switch(config)#
```

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 neighbor

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

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

Syntax Description

if-type	(Optional) Interface type. For more information, use the question mark (?) online help function.
if-number	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
neighbor-addr	(Optional) IP address of a neighbor.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
5.0(2)	Information on Bidirectional Forwarding Detection (BFD) was added.

Usage Guidelines

This command requires the Enterprise 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-Enabled
                                                          Priority  Capable    (Up/Down)
```

```
2.1.1.2          Ethernet2/2          07:53:06  00:01:40  1         yes        Yes (Down)
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 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**}]

Syntax Description

group	Group address.
source	(Optional) Source address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(3)	Changed output to include vPC information.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display PIM interfaces for a group:

```
switch(config)#
show ip pim oif-list 225.1.1.1
PIM OIF-List for VRF default
(*, 225.1.1.1/32)
  Incoming interface: Ethernet2/1, RPF nbr 4.1.1.1
  Timeout interval: 38 secs left
  Oif-list (count: 0): (1) 00000010
  Timeout-list (count: 0): (0) 00000000
  Immediate-list (count: 0):
  Immediate-timeout-list (count: 0):
  Assert-lost-list (count: 1):
```

```
    Vlan5
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 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**}]

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.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about PIM policy statistics:

```
switch(config)#
show ip pim policy statistics auto-rp rp-candidate-policy
C: No. of comparisions, M: No. of matches
route-map rpolicy permit 1
  match ip multicast group 225.1.1.0/24      C: 0      M: 0
Total accept count for policy: 0
Total reject count for policy: 0
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 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**}]

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.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about PIM policy statistics:

```
switch(config)#
show ip pim policy statistics bsr bsr-policy
C: No. of comparisions, M: No. of matches
route-map rpolicy permit 1
  match ip multicast group 225.1.1.0/24      C: 0      M: 0
Total accept count for policy: 0
Total reject count for policy: 0
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 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 *if-type if-number*

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise 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
C: No. of comparisions, M: No. of matches
route-map rpolicy permit 1
  match ip multicast group 225.1.1.0/24         C: 0      M: 0
Total accept count for policy: 0
Total reject count for policy: 0
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 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 *if-type if-number*

Syntax Description

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

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about PIM policy statistics:

```
switch(config)#
show ip pim policy statistics neighbor-policy ethernet 2/12
C: No. of comparisions, M: No. of matches
route-map rpolicy permit 1
  match ip multicast group 225.1.1.0/24         C: 0      M: 0
Total accept count for policy: 0
Total reject count for policy: 0
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 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**}]

Syntax Description

vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise 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
C: No. of comparisions, M: No. of matches
route-map rmap1 permit 10
  match ip multicast group 225.1.1.0/24                    C: 0      M: 0
Total accept count for policy: 0
Total reject count for policy: 0
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 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**}]

Syntax Description

source	Source address.
group	Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display PIM routes:

```
switch(config)#
show ip pim route 224.1.1.1
PIM Routing Table for VRF "default" - 6 entries
(*, 224.0.0.0/4), RP 1.1.1.1*, bidir, expires 00:00:59, RP-bit
  Incoming interface: loopback4, RPF nbr 1.1.1.1
  Oif-list: (0) 00000000, timeout-list: (0) 00000000
  Timeout-interval: 1, JP-holdtime round-up: 3
(*, 225.0.0.1/32), RP 1.1.1.1*, bidir, expires 0.000000 (00:00:06), RP-bit
  Incoming interface: loopback4, RPF nbr 1.1.1.1
  Oif-list: (0) 00000000, timeout-list: (0) 00000000
  Timeout-interval: 1, JP-holdtime round-up: 3
(*, 225.0.1.1/32), RP 1.1.1.1*, bidir, expires 0.000000 (00:00:06), RP-bit
  Incoming interface: loopback4, RPF nbr 1.1.1.1
```

```
  Oif-list: (0) 00000000, timeout-list: (0) 00000000
  Timeout-interval: 1, JP-holdtime round-up: 3
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 rp

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

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

Syntax Description

group	(Optional) Group address.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about PIM RPs:

```
switch(config)#
show ip pim rp
PIM RP Status Information for VRF "default"
BSR: Not Operational
Auto-RP RPA: 192.168.1.222*, next Discovery message in: 00:00:06
BSR RP Candidate policy: my_bsr_rp_candidate_policy
BSR RP policy: my_bsr_policy
Auto-RP Announce policy: my_rp_candidate_policy
Auto-RP Discovery policy: my_mapping_agent_policy
Anycast-RP 192.0.2.3 members:
  192.0.2.31
RP: 192.0.2.33, (0), uptime: 04:08:11, expires: never,
  priority: 0, RP-source: (local), group ranges:
      224.0.0.0/9
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**}]

Syntax Description

group	Group address for RP lookup.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ip pim rp-hash 224.1.1.1
PIM Hash Information for VRF "default"
PIM RPs for group 224.1.1.1, using hash-length: 0 from BSR: 10.2.0.1
  RP 10.2.0.1, hash: 1894762513 (selected)
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 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**}]

Syntax Description

vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.
4.1(3)	Changed output to include vPC information when PIM is in vPC mode.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about 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/Bidir groups: 0/0
  BSR processing (sent/received):
    Bootstraps: 0/0, Candidate-RPs: 0/0
    BSs from non-neighbors: 0, BSs from border interfaces: 0
    BS length errors: 0, BSs which RPF failed: 0
    BSs received but not listen configured: 0
    Cand-RPs from border interfaces: 0
    Cand-RPs received but not listen configured: 0
```

```
  Auto-RP processing (sent/received):
    Auto-RP Announces: 0/0, Auto-RP Discoveries: 0/0
    Auto-RP RPF failed: 0, Auto-RP from border interfaces: 0
    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: 2
  vPC packet stats:
    assert requests sent: 1
    assert requests received: 1
    assert request send error: 0
    assert response sent: 1
    assert response received: 1
    assert response send error: 0
    assert stop sent: 0
    assert stop received: 1
    assert stop send error: 0
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 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**}]

Syntax Description

vrf-name	(Optional) VRF name.
all	(Optional) Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.1(2)	This command was introduced.
5.0(2)	Information on Bidirectional Forwarding Detection (BFD) was added.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ip pim vrf
PIM Enabled VRF
VRF Name              VRF      Table       Interface   BFD Enabled
                      ID       ID          Count
default               1        0x00000001  1           Yes
```

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 ipv6 mld groups

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

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

Syntax Description

icmp	(Optional) Specifies ICMPv6 commands.
group	IPv6 source address.
source	(Optional) IPv6 multicast group address.
if-type	(Optional) Interface type. For more information, use the question mark (?) online help function.
if-number	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ipv6 mld groups
MLD Connected Group Membership for VRF "default" - 13 total entries (*, ff13::0001)
  Type: Local, Interface: Ethernet2/1
```

```
  Uptime/Expires: 00:00:25/00:03:54, Last Reporter: fe80::0230:48ff:fe34:0d5b
(*, ff13::0002)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:21/00:03:58, Last Reporter: fe80::0230:48ff:fe34:0d5b
(*, ff13::0003)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:22/00:03:57, Last Reporter: fe80::0230:48ff:fe34:0d5b
(*, ff13::0004)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:23/00:03:56, Last Reporter: fe80::0230:48ff:fe34:0d5b
(*, ff13::0005)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:24/00:03:55, Last Reporter: fe80::0230:48ff:fe34:0d5b
(*, ff13::0006)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:25/00:03:54, Last Reporter: fe80::0230:48ff:fe34:0d5b
(*, ff13::0007)
  Type: Local, Interface: Ethernet2/1
  Uptime/Expires: 00:00:27/00:03:52, Last Reporter: fe80::0230:48ff:fe34:0d5b
switch(config)#
```

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 ipv6 mld local-groups

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

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

Syntax Description

icmp	(Optional) Specifies ICMPv6 commands.
if-type	(Optional) Interface type. For more information, use the question mark (?) online help function.
if-number	(Optional) Interface or subinterface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
vrf	(Optional) Applies to a virtual routing and forwarding (VRF) instance.
vrf-name	VRF name.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

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

```
switch(config)#
show ipv6 mld local-groups
MLD Locally Joined Group Membership for VRF "default"
Group   Type     Interface   Last Reported
(*, ff13::0001)
        Local    Eth2/1      00:00:55
(*, ff13::0002)
        Local    Eth2/1      00:00:46
(*, ff13::0003)
        Local    Eth2/1      00:00:54
```

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

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 ipv6 mroute

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

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

Syntax Description

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.
all	Specifies all VRFs.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

This command requires the Enterprise Services license.

Examples

This example shows how to display information about multicast routes:

```
switch(config)#
show ipv6 mroute
IPv6 Multicast Routing Table for VRF "default"
(*, ff30::/32), uptime: 1d02h, pim6 ipv6
  Incoming interface: Null, RPF nbr: 0::
  Outgoing interface list: (count: 0)
switch(config)#
```

Related Commands

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