Contents

Multicast routing and forwarding commands

delete ip rpf-route-static

Use **delete ip rpf-route-static** to delete all static multicast routes.

Syntax

delete ip rpf-route-static [**vpn-instance** *vpn-instance-name*]

Views

System view

Predefined user roles

network-admin

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command deletes all static multicast routes on the public network.

Usage guidelines

This command deletes all static multicast routes. To delete a specified static multicast route, use the **undo ip rpf-route-static** command.

Examples

Delete all static multicast routes on the public network.

```
<Sysname> system-view
[Sysname] delete ip rpf-route-static
This will erase all multicast static routes and their configurations, you must reconfigure all static routes.
Are you sure?[Y/N]:y
```

Related commands

ip rpf-route-static

display mrib interface

Use **display mrib interface** to display information about interfaces maintained by the MRIB.

Syntax

display mrib [**vpn-instance** *vpn-instance-name*] **interface** [*interface-type interface-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays information about interfaces maintained by the MRIB on the public network.

interface-type interface-number: Specifies an interface by its type and number. If you do not specify an interface, this command displays information about all interfaces maintained by the MRIB.

Examples

Display information about interfaces maintained by the MRIB on the public network.

```
<Sysname> display mrib interface
 Interface: Vlan-interface1
     Index: 0x00004444
     Current state: up
     MTU: 1500
     Type: BROADCAST
     Protocol: PIM-DM
     PIM protocol state: Enabled
     Address list:
          1. Local address : 8.12.0.2/16
             Remote address: 0.0.0.0
             Reference     : 1
             State         : NORMAL
```

Table 1 Command output

Field	Description
Interface	Interface name.
Index	Index number of the interface.
Current state	Current status of the interface: up or down.
MTU	MTU value.
Type	Interface type: • **BROADCAST**—Broadcast link interface. • **LOOP**—Loopback interface. • **REGISTER**—Register interface. • **MTUNNEL**—Multicast tunnel interface. This field is empty if the interface is Null 0.
Protocol	Protocol running on the interface: PIM-DM, PIM-SM, IGMP, PROXY, or MD.
PIM protocol state	Whether PIM is enabled: Enabled or Disabled.
Address list	Interface address list.
Local address	Local IP address.
Remote address	Remote end IP address. This field is displayed only when the interface is vlink type.
Reference	Number of times that the address has been referenced.
State	Status of the interface address: NORMAL or DEL.

display multicast boundary

Use **display multicast boundary** to display multicast boundary information.

Syntax

display multicast [**vpn-instance** *vpn-instance-name*] **boundary** [*group-address* [*mask-length* | *mask*]] [**interface** *interface-type interface-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays multicast boundary information on the public network.

group-address: Specifies a multicast group by its IP address in the range of 224.0.0.0 to 239.255.255.255. If you do not specify a multicast group, this command displays multicast boundary information for all multicast groups.

mask-length: Specifies an address mask length in the range of 4 to 32. The default is 32.

mask: Specifies an address mask. The default is 255.255.255.255.

interface *interface-type interface-number*: Specifies an interface by its type and number. If you do not specify an interface, this command displays multicast boundary information for all interfaces.

Examples

Display information about all multicast boundaries on the public network.

```
<Sysname> display multicast boundary
 Boundary            Interface
 224.1.1.0/24        Vlan1
 239.2.2.0/24        Vlan2
```

Table 2 Command output

Field	Description
Boundary	Multicast group associated with the multicast boundary.
Interface	Boundary interface associated with the multicast boundary.

Related commands

multicast boundary

display multicast fast-forwarding cache

Use **display multicast fast-forwarding cache** to display multicast fast forwarding entries.

Syntax

display multicast [**vpn-instance** *vpn-instance-name*] **fast-forwarding cache** [*source-address* | *group-address*] * [**slot** *slot-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays multicast fast forwarding entries on the public network.

source-address: Specifies a multicast source address.

group-address: Specifies a multicast group address in the range of 224.0.1.0 to 239.255.255.255.

slot *slot-number*: Specifies an IRF member device by its member ID. If you do not specify a member device, this command displays multicast fast forwarding entries for the master device.

Examples

Display multicast fast forwarding entries on the public network.

```
<Sysname> display multicast fast-forwarding cache
Total 1 entries, 1 matched

(60.1.1.200, 225.0.0.2)
Status     : Enabled
Source port: 2001                  Destination port: 2002
Protocol   : 2                     Flag            : 0x2
Incoming interface: Vlan-interface1
List of 1 outgoing interfaces:
Vlan-interface2
Status: Enabled              Flag: 0x14
```

Table 3 Command output

Field	Description
Total 1 entries, 1 matched	Total number of (S, G) entries in the multicast fast forwarding table, and the total number of matching (S, G) entries.
(60.1.1.200, 225.0.0.2)	(S, G) entry.
Protocol	Protocol number.
Flag	Flag of the (S, G) entry or the outgoing interface in the entry. This field displays one flag or the sum of multiple flags. In this example, the value 0x2 means that the entry has only one flag 0x2. The value 0x14 means that the interface has flags 0x4 and 0x10. The following flags are available for an entry: • **0x1**—The entry is created because of packets passed through between cards. • **0x2**—The entry is added by multicast forwarding. The following flags are available for an outgoing interface:

Field	Description
	• **0x1**—The interface is added to the entry because of packets passed through between cards. • **0x2**—The interface is added to an existing entry. • **0x4**—The MAC address of the interface is needed for fast forwarding. • **0x8**—The interface is an outgoing interface associated with the incoming VLAN or super VLAN interface. • **0x10**—The interface is associated with the entry. • **0x20**—The interface is to be deleted.
Status	Status of the (S, G) entry or the outgoing interface: • **Enabled**—Available. • **Disabled**—Unavailable.
Incoming interface	Incoming interface of the (S, G) entry.
List of 1 outgoing interfaces	Outgoing interface list of the (S, G) entry.

Related commands

reset multicast fast-forwarding cache all

display multicast forwarding df-info

Use **display multicast forwarding df-info** to display DF information.

Syntax

display multicast [**vpn-instance** *vpn-instance-name*] **forwarding df-info** [*rp-address*] [**verbose**] [**slot** *slot-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays DF information on the public network.

rp-address: Specifies a BIDIR-PIM RP by its IP address.

verbose: Specifies detailed information. If you do not specify this keyword, the command displays brief information about DFs.

slot *slot-number*: Specifies an IRF member device by its member ID. If you do not specify a member device, this command displays DF information for the master device.

Usage guidelines

In a BIDIR-PIM domain, only the DF on each subnet can forward multicast data destined for a multicast group toward the RP of the group. For more information about the DF, see *IP Multicast Configuration Guide*.

Examples

Display brief information about DFs on the public network.

```
<Sysname> display multicast forwarding df-info
Total 1 RPs, 1 matched

00001. RP address: 7.11.0.2
     Flags: 0x0
     Uptime: 04:14:40
     RPF interface: Vlan-interface1
     List of 1 DF interfaces:
       1: Vlan-interface2
```

Display detailed information about DFs on the public network.

```
<Sysname> display multicast forwarding df-info verbose
Total 1 RPs, 1 matched

00001. RP address: 7.11.0.2
     MID: 2, Flags: 0x0
     Uptime: 03:37:22
       Product information: 0x7a2f762f, 0x718fee9f, 0x4b82f137, 0x71c32184
     RPF interface: Vlan-interface1
       Product information: 0xa567d6fc, 0xadeb03e3
       Tunnel  information: 0xdfb107d4, 0x7aa5d510
     List of 1 DF interfaces:
       1: Vlan-interface2
          Product information: 0xa986152b, 0xb74a9a2f
          Tunnel  information: 0x297ca208, 0x76985b89
```

Table 4 Command output

Field	Description
Total 1 RPs, 1 matched	Total number of RPs, and the total number of matching RPs.
00001	Sequence number of the entry to which the RP is designated.
RP address	IP address of the RP.
MID	ID of the entry to which the RP is designated. Each entry to which the RP is designated has a unique MID.
Flags	Entry flag. This field displays one flag or the sum of multiple flags. In this example, the value 0x0 means that the entry has only one flag 0x0. The following flags are available for an entry: • **0x0**—The entry is in correct state. • **0x4**—The entry fails to update. • **0x8**—DF interface information fails to update for the entry. • **0x40**—The entry is to be deleted. • **0x100**—The entry is being deleted. • **0x200**—The entry is in GR state.
Uptime	Length of time for which the entry has been up.
RPF interface	RPF interface to the RP.
List of 1 DF interfaces	DF interface list.

display multicast forwarding event

Use **display multicast forwarding event** to display statistics of multicast forwarding events.

Syntax

display multicast [**vpn-instance** *vpn-instance-name*] **forwarding event** [**slot** *slot-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays statistics of the multicast forwarding events on the public network.

slot *slot-number*: Specifies an IRF member device by its member ID. If you do not specify a member device, this command displays statistics of multicast forwarding events for the master device.

Examples

Display statistics of multicast forwarding events on the public network.

```
<Sysname> display multicast forwarding event
Total active events sent: 0
Total inactive events sent: 0
Total NoCache events sent: 2
Total NoCache events dropped: 0
Total WrongIF events sent: 0
Total WrongIF events dropped: 0
Total SPT switch events sent: 0
NoCache rate limit: 1024 packets/s
WrongIF rate limit: 1 packets/10s
Total timer of register suppress timeout: 0
```

Table 5 Command output

Field	Description
Total active events sent	Number of times that entry-active events have been sent.
Total inactive events sent	Number of times that entry-inactive events have been sent.
Total NoCache events sent	Number of times that NoCache events have been sent.
Total NoCache events dropped	Number of times that NoCache events have been dropped.
Total WrongIF events sent	Number of times that WrongIF events have been sent.
Total WrongIF event dropped	Number of times that WrongIF events have been dropped.
Total SPT switch events sent	Number of times that SPT-switch events have been sent.
NoCache rate limit	Rate limit for sending NoCache events, in pps.

Field	Description
WrongIF rate limit	Rate limit for sending WrongIF events, in packets per 10 seconds.
Total timer of register suppress timeout	Number of times that the registration suppression has timed out in total.

Related commands

reset multicast forwarding event

display multicast forwarding-table

Use **display multicast forwarding-table** to display multicast forwarding entries.

Syntax

display multicast [**vpn-instance** *vpn-instance-name*] **forwarding-table** [*source-address* [**mask** { *mask-length* | *mask* }] | *group-address* [**mask** { *mask-length* | *mask* }] | **incoming-interface** *interface-type interface-number* | **outgoing-interface** { **exclude** | **include** | **match** } *interface-type interface-number* | **slot** *slot-number* | **statistics**] *

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays multicast forwarding entries on the public network.

source-address: Specifies a multicast source address.

group-address: Specifies a multicast group address in the range of 224.0.0.0 to 239.255.255.255.

mask-length: Specifies an address mask length. The default value is 32. For a multicast group address, the value range for this argument is 4 to 32. For a multicast source address, the value range for this argument is 0 to 32.

mask: Specifies an address mask. The default value is 255.255.255.255.

incoming-interface: Specifies the multicast forwarding entries that contain the specified incoming interface.

interface-type interface-number: Specifies an incoming interface by its type and number.

outgoing-interface: Specifies the multicast forwarding entries that contain the specified outgoing interface.

exclude: Specifies the multicast forwarding entries that do not contain the specified interface in the outgoing interface list.

include: Specifies the multicast forwarding entries that contain the specified interface in the outgoing interface list.

match: Specifies the forwarding entries that contain only the specified interface in the outgoing interface list.

slot *slot-number*: Specifies an IRF member device by its member ID. If you do not specify a member device, this command displays multicast forwarding entries for the master device.

statistics: Displays statistics for the multicast forwarding table.

Examples

Display multicast forwarding entries on the public network.

```
<Sysname> display multicast forwarding-table
Total 1 entries, 1 matched

00001. (172.168.0.2, 227.0.0.1)
     Flags: 0x0
     Uptime: 00:08:32, Timeout in: 00:03:26
     Incoming interface: Vlan-interface10
          Incoming sub-VLAN: VLAN 11
          Outgoing sub-VLAN: VLAN 12
                             VLAN 13
     List of 1 outgoing interfaces:
       1: Vlan-interface20
          Sub-VLAN: VLAN 21
                    VLAN 22
     Matched 19648 packets(20512512 bytes), Wrong If 0 packet
     Forwarded 19648 packets(20512512 bytes)
```

Table 6 Command output

Field	Description
Total 1 entries, 1 matched	Total number of (S, G) entries, and the total number of matching (S, G) entries.
00001	Sequence number of the (S, G) entry.
(172.168.0.2,227.0.0.1)	(S, G) entry.
Flags	Entry flag. This field displays one flag or the sum of multiple flags. In this example, the value 0x0 means that the entry has only one flag 0x0. The following entries are available for an entry: • **0x0**—The entry is in correct state. • **0x1**—The entry is in inactive state. • **0x2**—The entry is null. • **0x4**—The entry fails to update. • **0x8**—Outgoing interface information fails to update for the entry. • **0x10**—Data-group information fails to update for the entry. • **0x20**—A register outgoing interface is available. • **0x40**—The entry is to be deleted. • **0x80**—The entry is in registration suppression state. • **0x100**—The entry is being deleted. • **0x200**—The entry is in GR state. • **0x400**—The entry has the VLAN interface of the super VLAN. • **0x800**—The entry has the associated ARP entry for the multicast source address. • **0x400000**—The entry is created by the IGMP proxy. • **0x2000000**—The entry is a BIDIR-PIM forwarding entry.

Field	Description
Uptime	Length of time for which the (S, G) entry has been up.
Timeout in	Length of time in which the (S, G) entry will expire.
Incoming interface	Incoming interface of the (S, G) entry.
Incoming sub-VLAN	Incoming sub-VLAN of the super VLAN when the incoming interface of the (S, G) entry is the VLAN interface of this super VLAN.
Outgoing sub-VLAN	Outgoing sub-VLAN of the super VLAN when the incoming interface of the (S, G) entry is the VLAN interface of this super VLAN.
List of 1 outgoing interfaces	Outgoing interface list of the (S, G) entry.
Sub-VLAN	Outgoing sub-VLAN of the super VLAN when the outgoing interface of the (S, G) entry is the VLAN interface of this super VLAN.
Matched 19648 packets(20512512 bytes), Wrong If 0 packet	Number of packets (bytes) that match the (S, G) entry, and number of packets with incoming interface errors. The numbers are displayed as 0 if an outgoing interface of the (S, G) entry is on the specified slot.
Forwarded 19648 packets(20512512 bytes)	Number of packets (bytes) that have been forwarded. The numbers are displayed as 0 if an outgoing interface of the (S, G) entry is on the specified slot.

Related commands

reset multicast forwarding-table

display multicast forwarding-table df-list

Use **display multicast forwarding-table df-list** to display information about the DF list in multicast forwarding entries.

Syntax

display multicast [**vpn-instance** *vpn-instance-name*] **forwarding-table df-list** [*group-address*] [**verbose**] [**slot** *slot-number*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays information about the DF list in multicast forwarding entries on the public network.

group-address: Specifies a multicast group address in the range of 224.0.0.0 to 239.255.255.255.

verbose: Specifies detailed information about the DF list in multicast forwarding entries. If you do not specify this keyword, the command displays brief information about the DF list in multicast forwarding entries.

slot *slot-number*: Specifies an IRF member device by its member ID. If you do not specify a member device, this command displays information about the DF list in multicast forwarding entries for the master device.

Examples

Display brief information about the DF list in multicast forwarding entries on the public network.

```
<Sysname> display multicast forwarding-table df-list
Total 1 entries, 1 matched

00001. (0.0.0.0, 225.0.0.1)
     List of 1 DF interfaces:
       1: Vlan-interface1
```

Display detailed information about the DF list in multicast forwarding entries on the public network.

```
<Sysname> display multicast forwarding-table df-list verbose
Total 1 entries, 1 matched

00001. (0.0.0.0, 225.0.0.1)
       List of 1 DF interfaces:
         1: Vlan-interface1
            Product information: 0x347849f6, 0x14bd6837
            Tunnel  information: 0xc4857986, 0x128a9c8f
```

Table 7 Command output

Field	Description
Total 1 entries, 1 matched	Total number of forwarding entries, and the total number of matching entries.
00001	Sequence number of the entry.
(0.0.0.0, 225.0.0.1)	(*, G) entry.
List of 1 DF interfaces	DF interface list.

display multicast routing-table

Use **display multicast routing-table** to display multicast routing entries.

Syntax

display multicast [**vpn-instance** *vpn-instance-name*] **routing-table** [*source-address* [**mask** { *mask-length* | *mask* }] | *group-address* [**mask** { *mask-length* | *mask* }] | **incoming-interface** *interface-type interface-number* | **outgoing-interface** { **exclude** | **include** | **match** } *interface-type interface-number*] *

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays multicast routing entries on the public network.

source-address: Specifies a multicast source address.

group-address: Specifies a multicast group address in the range of 224.0.0.0 to 239.255.255.255.

mask-length: Specifies an address mask length. The default value is 32. For a multicast group address, the value range for this argument is 4 to 32. For a multicast source address, the value range for this argument is 0 to 32.

mask: Specifies an address mask. The default is 255.255.255.255.

incoming-interface: Specifies the multicast routing entries that contain the specified incoming interface.

interface-type interface-number: Specifies an interface by its type and number.

outgoing-interface: Specifies the multicast routing entries that contain the specified outgoing interface.

exclude: Specifies the multicast routing entries that do not contain the specified interface in the outgoing interface list.

include: Specifies the multicast routing entries that contain the specified interface in the outgoing interface list.

match: Specifies the multicast routing entries that contain only the specified interface in the outgoing interface list.

Usage guidelines

Multicast routing entries are the basis of multicast forwarding. You can use this command to view the establishment state of (S, G) entries.

Examples

Display multicast routing entries on the public network.

```
<Sysname> display multicast routing-table
 Total 1 entries

 00001. (172.168.0.2, 227.0.0.1)
       Uptime: 00:00:28
       Upstream Interface: Vlan-interface1
       List of 2 downstream interfaces
           1:  Vlan-interface2
           2:  Vlan-interface3
```

Table 8 Command output

Field	Description
Total 1 entries	Total number of (S, G) entries.
00001	Sequence number of the (S, G) entry.
(172.168.0.2, 227.0.0.1)	(S, G) entry.
Uptime	Length of time for which the (S, G) entry has been up.
Upstream Interface	Upstream interface at which (S, G) packets should arrive.

Field	Description
List of 2 downstream interfaces	List of downstream interfaces that need to forward (S, G) packets.

Related commands

reset multicast routing-table

display multicast routing-table static

Use **display multicast routing-table static** to display static multicast routing entries.

Syntax

display multicast [**vpn-instance** *vpn-instance-name*] **routing-table static** [*source-address* { *mask-length* | *mask* }]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays static multicast routing entries on the public network.

source-address: Specifies a multicast source address.

mask-length: Specifies an address mask length in the range of 0 to 32.

mask: Specifies an address mask.

Usage guidelines

This command displays only valid static multicast routing entries.

Examples

Display static multicast routing entries on the public network.

```
<Sysname> display multicast routing-table static
Destinations: 3        Routes: 4

Destination/Mask   Pre  RPF neighbor    Interface
1.1.0.0/16         10   7.12.0.1        Vlan12
                        7.11.0.1        Vlan11
2.2.2.0/24         20   7.11.0.1        Vlan11
3.3.3.3/32         50   7.12.0.1        Vlan12
```

Table 9 Command output

Field	Description
Destinations	Number of the multicast destination addresses.
Routes	Number of routes.
Destination/Mask	Destination address and its mask length.

Field	Description
Pre	Route preference.
RPF neighbor	IP address of the RPF neighbor to the reachable destination.
Interface	Outgoing interface to the reachable destination.

display multicast rpf-info

Use **display multicast rpf-info** to display RPF information for a multicast source.

Syntax

display multicast [**vpn-instance** *vpn-instance-name*] **rpf-info** *source-address* [*group-address*]

Views

Any view

Predefined user roles

network-admin

network-operator

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays RPF information for a multicast source on the public network.

source-address: Specifies a multicast source address.

group-address: Specifies a multicast group address in the range of 224.0.1.0 to 239.255.255.255.

Examples

Display RPF information for multicast source 192.168.1.55 on the public network.

```
<Sysname> display multicast rpf-info 192.168.1.55
 RPF information about source 192.168.1.55:
     RPF interface:Vlan-interface1, RPF neighbor: 10.1.1.1
     Referenced route/mask: 192.168.1.0/24
     Referenced route type: igp
     Route selection rule: preference-preferred
     Load splitting rule: disable
```

Table 10 Command output

Field	Description
RPF neighbor	IP address of the RPF neighbor.
Referenced route/mask	Referenced route and its mask length.
Referenced route type	Type of the referenced route: • **igp**—IGP unicast route. • **egp**—EGP unicast route. • **unicast (direct)**—Directly connected unicast route. • **unicast**—Other unicast routes, such as static unicast route. • **multicast static**—Static multicast route.

Field	Description
	• **mbgp**—MBGP route.
Route selection rule	Rule for RPF route selection: • Route preference. • Longest prefix match.
Load splitting rule	Status of the load splitting rule: enable or disable.

Related commands

display multicast forwarding-table

display multicast routing-table

ip rpf-route-static

Use **ip rpf-route-static** to configure a static multicast route.

Use **undo ip rpf-route-static** to delete a static multicast route.

Syntax

ip rpf-route-static [**vpn-instance** *vpn-instance-name*] *source-address* { *mask-length* | *mask* } { *rpf-nbr-address* | *interface-type interface-number* } [**preference** *preference*]

undo ip rpf-route-static [**vpn-instance** *vpn-instance-name*] *source-address* { *mask-length* | *mask* } { *rpf-nbr-address* | *interface-type interface-number* }

Default

No static multicast routes exist.

Views

System view

Predefined user roles

network-admin

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command configures a static multicast route on the public network.

source-address: Specifies a multicast source address.

mask-length: Specifies an address mask length in the range of 0 to 32.

mask: Specifies an address mask.

rpf-nbr-address: Specifies an RPF neighbor by its IP address.

interface-type interface-number: Specifies an interface by its type and number. The interface connects the RPF neighbor.

preference: Sets a route preference in the range of 1 to 255. The default value is 1.

Usage guidelines

If the interface connected to an RPF neighbor is a point-to-point interface, you must specify the interface by its type and number.

If the interface connected to an RPF neighbor is not a point-to-point interface, you must specify the interface by its IP address. This type of interfaces includes loopback interface, Layer 3 Ethernet, interface, Layer 3 aggregate interface, and VLAN interfaces.

The configured static multicast route might not take effect when one of the following conditions exists:

- The outgoing interface iteration fails.
- The specified interface is not in the public network or the same VPN instance as the current interface.
- The specified interface is not a point-to-point interface.
- The specified interface is down.

If multiple static multicast routes within the same multicast source address range are available, only the one with the highest route preference can become active. You can use the **display multicast routing-table static** command to verify that the configured static multicast route has taken effect.

The **undo ip rpf-route-static** command deletes the specified static multicast route, but the **delete ip rpf-route-static** command deletes all static multicast routes.

Examples

Configure a static multicast route to multicast source 10.1.1.0/24 and specify the interface with IP address 192.168.1.23 as the RPF neighbor on the public network.

```
<Sysname> system-view
[Sysname] ip rpf-route-static 10.1.1.0 24 192.168.1.23
```

Related commands

delete ip rpf-route-static

display multicast routing-table static

load-splitting (MRIB view)

Use **load-splitting** to enable multicast load splitting.

Use **undo load-splitting** to restore the default.

Syntax

load-splitting { **source** | **source-group** }

undo load-splitting

Default

Multicast load splitting is disabled.

Views

MRIB view

Predefined user roles

network-admin

Parameters

source: Enables multicast load splitting based on multicast source.

source-group: Enables multicast load splitting based on multicast source and group.

Usage guidelines

This command does not take effect on BIDIR-PIM.

Examples

Enable multicast load splitting based on multicast source on the public network.

```
<Sysname> system-view
[Sysname] multicast routing
[Sysname-mrib] load-splitting source
```

longest-match (MRIB view)

Use **longest-match** to specify the longest prefix match principle for RPF route.

Use **undo longest-match** to restore the default.

Syntax

longest-match

undo longest-match

Default

Route preference is used for RPF route selection. The route with the highest preference is used as the RPF route.

Views

MRIB view

Predefined user roles

network-admin

Usage guidelines

This command enables the device to use the matching route with the longest prefix as the RPF route.

Examples

Specify the longest prefix match principle for RPF route selection on the public network.

```
<Sysname> system-view
[Sysname] multicast routing
[Sysname-mrib] multicast longest-match
```

mtrace-service port

Use **mtrace-service port** to specify the UDP port number used by mtrace.

Use **undo mtrace-service port** to restore the default.

Syntax

mtrace-service port *number*

undo mtrace-service port

Default

Mtrace uses UDP port number 10240.

Views

System view

Predefined user roles

network-admin

Parameters

number: Specifies a UDP port number to be used by mtrace, in the range of 1024 to 49151.

Usage guidelines

Execute this command only when mtrace2 is used.

For successful mtrace, do not specify a UDP port number used by other modules.

You must specify the same UDP port number on all devices on the traced path. Additionally, the specified UDP port number must be the same as that specified in the **mtrace v2** command.

Examples

Specify 12345 as the UDP port number used by mtrace.

```
<Sysname> system-interview
[sysname] mtrace-service port 12345
```

Related commands

mtrace v2

mtrace v1

Use **mtrace v1** to trace a multicast path through mtrace1.

Syntax

mtrace v1 [**vpn-instance** *vpn-instance-name*] { *source-address* | *group-address* } * [**destination** *address*] [**verbose**]

Views

Any view

Predefined user roles

network-admin

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command traces a multicast path on the public network.

source-address: Specifies a multicast source by its IP address.

group-address: Specifies a multicast group by its IP address, in the range of 224.0.1.0 to 239.255.255.255.

destination *address*: Specifies the destination address of mtrace. The default destination address is 224.0.0.2.

verbose: Displays detailed information about mtrace. If you do not specify this keyword, the command displays brief information about mtrace.

Usage guidelines

To perform a non-group-specific mtrace, specify a multicast source and a destination. The mtrace starts from the destination and ends at the device directly connected to the multicast source.

To perform a non-source-specific mtrace, specify a multicast group and a destination. The mtrace starts from the destination and ends at the RP associated with the multicast group.

To perform a source-and-group-specific mtrace, specify both a multicast source and a multicast group. If you also specify a destination, the mtrace starts from the destination and ends at the device

directly connected to the multicast source. If you do not specify a destination, the mtrace starts from the upstream device of the client and ends at the device directly connected to the multicast source.

An mtrace process stops if the number of traced hops reaches 255.

If the client does not receive a Reply message within 10 seconds, the client initiates a hop-by-hop mtrace to determine which device on the path encountered an error. It sends a Query message with the **hops** field set to 1 and waits for a Reply message. If it does not receive a Reply message within 10 seconds, the client determines that this hop encountered an error. If the client receives a Reply message within 10 seconds, it sends a Query message with the **hops** field value increased by 1 and waits for a Reply message. This process continues until the client does not receive a Reply message within the waiting time any more.

Examples

Use mtrace1 to trace the path along which multicast data of group 225.2.1.1 travels from source 10.11.5.24 to destination 192.168.2.2 and display brief mtrace information.

```
<Sysname> mtrace v1 10.11.5.24 225.2.1.1 destination 192.168.2.2
 Mtrace from 10.11.5.24 to 192.168.2.2 via group 225.2.1.1, 255 hops at most, press
CTRL_C to break.
 Querying full reverse path...

  Hop  Incoming address  Outgoing address  Protocol       Time    Fwd code
    0  5.1.1.2           192.168.2.1       PIM            50 s    NO_ERROR
   -1  4.1.1.2           5.1.1.1           PIM            40 s    NO_ERROR
   -2  3.1.1.2           4.1.1.1           PIM            60 s    NO_ERROR
   -3  2.1.1.2           3.1.1.1           PIM            55 s    NO_ERROR
   -4  10.11.5.1         2.1.1.1           PIM            30 s    NO_ERROR
```

Table 11 Command output

Field	Description
Hop	Number of the hop. **0** represents the last hop, **-1** represents the hop before the last hop, and so on.
Incoming address	Incoming interface of the multicast data.
Outgoing address	Outgoing interface of the multicast data.
Protocol	Multicast routing protocol used between this device and the previous-hop device: • **PIM**. • **PIM(STATIC)**—PIM using a static multicast route. • **PIM(MBGP)**—PIM using an MBGP route. • **PIM(ASSERT)**—PIM in a state created by Assert processing.
Time	Length of time used to transmit an mtrace message between this device and the previous-hop device, in seconds.
Fwd code	Forwarding code or error code: • **NO_ERROR**—No error. • **WRONG_IF**—The interface on which the mtrace message arrives is not in the outgoing interface list of the multicast data. • **PRUNE_SENT**—This device has sent a prune message to the upstream device. • **PRUNE_RCVD**—This device has received a prune message from the downstream device. • **SCOPED**—A multicast border is configured on the incoming interface or outgoing interface of the multicast data. • **NO_ROUTE**—This device does not have any route for the source or the

Field	Description
	RP. • **WRONG_LAST_HOP**—This device is not the proper last-hop device. • **REACHED_RP**—This device is the RP for the (*, G) multicast data. • **RPF_IF**—The mtrace message arrived on the expected RPF interface for the multicast data. • **NO_MULTICAST**—The mtrace message arrived on an interface that is not enabled with IP multicast. • **NO_SPACE**—No space is available for inserting a response data block in the packet.

Use mtrace1 to trace the path along which multicast data of group 225.2.1.1 travels from source 10.11.5.24 to destination 192.168.2.2 and display detailed mtrace information.

```
<Sysname> mtrace v1 10.11.5.24 225.2.1.1 destination 192.168.2.2 verbose
 Mtrace from 10.11.5.24 to 192.168.2.2 via group 225.2.1.1, 255 hops at most, use query
 ID 12345, client port 50001, press CTRL_C to break.
 Querying full reverse path.........
Switching to hop-by-hop mode, Current hops: 2

    0: Incoming interface address: 4.1.1.2
       Outgoing interface address: 5.1.1.1
       Upstream router address: 4.1.1.1
       Input multicast packets: 111
       Output multicast packets: 111
       Forwarded packets for the (S, G) pair: 22
       Multicast protocol in use: PIM
       Multicast TTL threshold: 1
       Forwarding code: NO_ERROR
       Time used (s): 50

   -1: Incoming interface address: 3.1.1.2
       Outgoing interface address: 4.1.1.1
       Upstream router address: 3.1.1.1
       Input multicast packets: 111
       Output multicast packets: 111
       Forwarded Packets for the (S, G) pair: 22
       Multicast protocol in use: PIM
       Multicast TTL threshold: 1
       Forwarding code: NO_ERROR
       Time used (s): 50
```

Table 12 Command output

Field	Description
n	Number of the hop. **0** represents the last hop, **-1** represents the hop before the last hop, and so on.
Incoming interface address	Incoming interface of the multicast data.
Outgoing interface address	Outgoing interface of the multicast data.
Upstream router address	IP address of the upstream device.

Field	Description
Input multicast packets	Statistics for packets received on the incoming interface of the multicast data.
Output multicast packets	Statistics for packets forwarded through the outgoing interface of the multicast data.
Forwarded packets for the (S, G) pair	Statistics for forwarded (S, G) packets.
Multicast protocol in use	Multicast routing protocol used on the traced path: • **PIM**. • **PIM(STATIC)**—PIM using a static multicast route. • **PIM(MBGP)**—PIM using an MBGP route. • **PIM(ASSERT)**—PIM in a state created by Assert processing.
Multicast TTL threshold	Maximum number of hops to be traced on the interface.
Forwarding code	Forwarding code or error code: • **NO_ERROR**—No error. • **WRONG_IF**—The interface on which the mtrace message arrives is not in the outgoing interface list of the multicast data. • **PRUNE_SENT**—This device has sent a prune message to the upstream device. • **PRUNE_RCVD**—This device has received a prune message from the downstream device. • **SCOPED**—A multicast border is configured on the incoming interface or outgoing interface of the multicast data. • **NO_ROUTE**—This device does not have any route for the source or the RP. • **WRONG_LAST_HOP**—This device is not the proper last-hop device. • **REACHED_RP**—This device is the RP for the (*, G) multicast data. • **RPF_IF**—The mtrace message arrived on the expected RPF interface for the multicast data. • **NO_MULTICAST**—The mtrace message arrived on an interface that is not enabled with IP multicast. • **NO_SPACE**—No space is available for inserting a response data block in the packet.
Time used (s)	Length of time for transmitting the mtrace message from the previous-hop device to this device.

mtrace v2

Use **mtrace v2** to trace a multicast path through mtrace2.

Syntax

mtrace v2 [**vpn-instance** *vpn-instance-name*] { *source-address* | *group-address* } * [**destination** *address* | **port** *number* | **wait-time** *time* | **max-hop** *count*] * [**verbose**]

Views

Any view

Predefined user roles

network-admin

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command traces a multicast path on the public network.

source-address: Specifies a multicast source by its IP address.

group-address: Specifies a multicast group by its IP address, in the range of 224.0.1.0 to 239.255.255.255.

destination *address*: Specifies the destination address of mtrace. The default destination address is 224.0.0.2.

port *number*: Specifies a UDP port number for mtrace2, in the range of 1024 to 49151. The default value is 10240.

wait-time *time*: Specifies the length of time that the client waits for a Reply message. The value range for the *time* argument is 1 to 65535 seconds and the default value is 10 seconds. If the client does not receive a Reply message within the waiting time, the client initiates a hop-by-hop mtrace.

max-hop *count*: Specifies the maximum number of the hops to be traced. The value range for the *count* argument is 1 to 255 and the default value is 255. If the maximum number of hops is reached on a device, the device directly sends an mtrace2 Reply message to the client and the mtrace is terminated.

verbose: Displays detailed information about mtrace. If you do not specify this keyword, the command displays brief information about mtrace.

Usage guidelines

To perform a non-group-specific mtrace, specify a multicast source and a destination. The mtrace starts from the destination and ends with the device directly connected to the multicast source.

To perform a non-source-specific mtrace, specify a multicast group and a destination. The mtrace starts from the destination and ends at the RP associated with the multicast group.

To perform a source-and-group-specific mtrace, specify both a multicast source and a multicast group. If you also specify a destination, the mtrace starts from the destination and ends at the device directly connected to the multicast source. If you do not specify a destination, the mtrace starts from the upstream device of the client and ends at the device directly connected to the multicast source.

An mtrace process stops if the maximum number of the hops to be traced is reached.

If the client does not receive a Reply message within the waiting time, the client initiates a hop-by-hop mtrace to determine which device on the path encountered an error. It sends a Query message with the **hops** field set to 1 and waits for a Reply message. If the client receives a Reply message within the waiting time, it sends a Query message with the **hops** field value increased by 1 and waits for a Reply message. This process continues until the client does not receive a Reply message within the waiting time any more.

Examples

Use mtrace2 to trace the path along which multicast data of group 225.2.1.1 travels from source 10.11.5.24 to destination 192.168.2.2 and display brief mtrace information.

```
<Sysname> mtrace v2 10.11.5.24 225.2.1.1 destination 192.168.2.2
 Mtrace from 10.11.5.24 to 192.168.2.2 via group 225.2.1.1, 255 hops at most, press
CTRL_C to break.
 Querying full reverse path...

  Hop  Incoming address  Outgoing address  Protocol       Time    Fwd code
```

```
 0  5.1.1.2          192.168.2.1      PIM-SM(OSPF)   50 s    NO_ERROR
-1  4.1.1.2          5.1.1.1          PIM-SM(OSPF)   40 s    NO_ERROR
-2  3.1.1.2          4.1.1.1          PIM-SM(OSPF)   60 s    NO_ERROR
-3  2.1.1.2          3.1.1.1          PIM-SM(OSPF)   55 s    NO_ERROR
-4  10.11.5.1        2.1.1.1          PIM-SM(OSPF)   30 s    NO_ERROR
```

Table 13 Command output

Field	Description
Hop	Number of the hop. **0** represents the last hop, **-1** represents the hop before the last hop, and so on.
Incoming address	Incoming interface of the multicast data.
Outgoing address	Outgoing interface of the multicast data.
Protocol	Multicast routing protocol used between this device and the previous-hop device: • PIM-SM. • PIM-DM. Unicast routing protocol used between this device and the previous-hop device: • **LOCAL**—Direct route. • **STATIC ROUTE**—Static route. • **RIP**. • **ISIS**. • **OSPF**. • **BGP**.
Time	Length of time used to transmit an mtrace message between this device and the previous-hop device, in seconds.
Fwd code	Forwarding code or error code: • **NO_ERROR**—No error. • **WRONG_IF**—The interface on which the mtrace message arrives is not in the outgoing interface list of the multicast data. • **PRUNE_SENT**—This device has sent a prune message to the upstream device. • **PRUNE_RCVD**—This device has received a prune message from the downstream device. • **SCOPED**—A multicast border is configured on the incoming interface or outgoing interface of the multicast data. • **NO_ROUTE**—This device does not have any route for the source or the RP. • **WRONG_LAST_HOP**—This device is not the proper last-hop device. • **REACHED_RP**—This device is the RP for the (*, G) multicast data. • **RPF_IF**—The mtrace message arrived on the expected RPF interface for the multicast data. • **NO_MULTICAST**—The mtrace message arrived on an interface that is not enabled with IP multicast. • **NO_SPACE**—No space is available for inserting a response data block in the packet.

Use mtrace2 to trace the path along which multicast data of group 225.2.1.1 travels from source 10.11.5.24 to destination 192.168.2.2 and display detailed mtrace information.

```
<Sysname> mtrace v2 10.11.5.24 225.2.1.1 destination 192.168.2.2 verbose
```

```
 Mtrace from 10.11.5.24 to 192.168.2.2 via group 225.2.1.1, 255 hops at most, use query
ID 12345, client port 50001, press CTRL_C to break.
 Querying full reverse path...

   0: Incoming interface address: 4.1.1.2
      Outgoing interface address: 5.1.1.1
      Upstream router address: 4.1.1.1
      Input multicast packets: 111
      Output multicast packets: 111
      Forwarded packets for the (S, G) pair: 22
      Multicast protocol in use: PIM-SM
      Unicast protocol in use: OSPF
      Multicast TTL threshold: 1
      Forwarding code: NO_ERROR
      Time used (s): 50

  -1: Incoming interface address: 3.1.1.2
      Outgoing interface address: 4.1.1.1
      Upstream router address: 3.1.1.1
      Input multicast packets: 111
      Output multicast packets: 111
      Forwarded packets for the (S, G) pair: 22
      Multicast protocol in use: PIM-SM
      Unicast protocol in use: OSPF
      Multicast TTL threshold: 1
      Forwarding code: NO_ERROR
      Time used (s): 50
```

Table 14 Command output

Field	Description
n	Number of the hop. **0** represents the last hop, **-1** represents the hop before the last hop, and so on.
Incoming interface address	Incoming interface of the multicast data.
Outgoing interface address	Outgoing interface of the multicast data.
Upstream router address	IP address of the upstream device.
Input multicast packets	Statistics of packets received on the incoming interface of the multicast data.
Output multicast packets	Statistics of packets forwarded through the outgoing interface of the multicast data.
Forwarded packets for the (S, G) pair	Statistics of forwarded (S, G) packets.
Multicast protocol in use	Multicast routing protocol running on the incoming interface of the multicast data.
Unicast protocol in use	Unicast routing protocol running on the incoming interface of the multicast data.
Multicast TTL threshold	Maximum number of hops to be traced on the interface.
Forwarding code	Forwarding code or error code: • **NO_ERROR**—No error.

Field	Description
	• **WRONG_IF**—The interface on which the mtrace message arrives is not in the outgoing interface list of the multicast data. • **PRUNE_SENT**—This device has sent a prune message to the upstream device. • **PRUNE_RCVD**—This device has received a prune message from the downstream device. • **SCOPED**—A multicast border is configured on the incoming interface or outgoing interface of the multicast data. • **NO_ROUTE**—This device does not have any route for the source or the RP. • **WRONG_LAST_HOP**—This device is not the proper last-hop device. • **REACHED_RP**—This device is the RP for the (*, G) multicast data. • **RPF_IF**—The mtrace message arrived on the expected RPF interface for the multicast data. • **NO_MULTICAST**—The mtrace message arrived on an interface that is not enabled with IP multicast. • **NO_SPACE**—No space is available for inserting a response data block in the packet.
Time used (s)	Length of time for transmitting the mtrace message from the previous-hop device to this device.

Related commands

mtrace-service port

multicast boundary

Use **multicast boundary** to configure a multicast forwarding boundary.

Use **undo multicast boundary** to delete a multicast forwarding boundary.

Syntax

multicast boundary *group-address* { *mask-length* | *mask* }

undo multicast boundary { *group-address* { *mask-length* | *mask* } | **all** }

Default

No multicast forwarding boundaries are configured on an interface.

Views

Interface view

Predefined user roles

network-admin

Parameters

group-address: Specifies a multicast group address in the range of 224.0.0.0 to 239.255.255.255.

mask-length: Specifies an address mask length in the range of 4 to 32.

mask: Specifies an address mask.

all: Specifies all forwarding boundaries configured on the interface.

Usage guidelines

A multicast forwarding boundary sets the boundary condition for the multicast groups in the specified address range. If the destination address of a multicast packet matches the set boundary condition, the packet is not forwarded.

You can configure an interface as a multicast forwarding boundary for different multicast group ranges by executing this command multiple times on the interface.

You do not need to enable IP multicast routing before you execute this command.

Assume that Set A and Set B are multicast forwarding boundary sets with different address ranges, and B is a subset of A. A takes effect on the interface no matter whether A is configured earlier or later than B.

Examples

Configure VLAN-interface 100 as the forwarding boundary of multicast groups in the range of 239.2.0.0/16.

```
<Sysname> system-view
[Sysname] interface vlan-interface 100
[Sysname-Vlan-interface100] multicast boundary 239.2.0.0 16
```

Related commands

display multicast boundary

multicast forwarding supervlan community

Use **multicast forwarding supervlan community** to enable multicast forwarding between sub-VLANs that are associated with a super VLAN.

Use **undo multicast forwarding supervlan community** to disable multicast forwarding between sub-VLANs that are associated with a super VLAN.

Syntax

multicast forwarding supervlan community

undo multicast forwarding supervlan community

Default

Multicast forwarding between sub-VLANs that are associated with a super VLAN is disabled.

Views

VLAN interface view

Predefined user roles

network-admin

Usage guidelines

For this command to take effect, you must clear all multicast forwarding entries with the super VLAN interface as the incoming interface after executing this command. To clear multicast forwarding entries, use the **reset multicast forwarding-table** command.

Examples

Enable multicast forwarding between sub-VLANs that are associated with the super VLAN 2.

```
<Sysname> system-view
[Sysname] interface vlan-interface 2
[Sysname-Vlan-interface2] multicast forwarding supervlan community
```

Related commands

reset multicast forwarding-table

multicast forwarding-table cache-unknown per-entry

Use **multicast forwarding-table cache-unknown per-entry** to set the maximum number of unknown multicast packets that can be cached for an (S, G) entry.

Use **undo multicast forwarding-table cache-unknown per-entry** to restore the default.

Syntax

multicast forwarding-table cache-unknown per-entry *per-entry-limit*

undo multicast forwarding-table cache-unknown per-entry

Default

The device can cache only one unknown multicast packet for an (S, G) entry.

Views

System view

Predefined user roles

network-admin

Parameters

per-entry-limit: Specifies the maximum number of unknown multicast packets that can be cached for an (S, G) entry. The value range for this argument is 0 to 256. If you set the value to 0, the device cannot cache unknown multicast packets.

Examples

Set the maximum number to 20 for unknown multicast packets that can be cached for an (S, G) entry.

```
<Sysname> system-view
[Sysname] multicast forwarding-table cache-unknown per-entry 20
```

Related commands

multicast forwarding-table cache-unknown total

multicast forwarding-table cache-unknown total

Use **multicast forwarding-table cache-unknown total** to set the maximum number of all unknown multicast packets that can be cached.

Use **undo multicast forwarding-table cache-unknown total** to restore the default.

Syntax

multicast forwarding-table cache-unknown total *total-limit*

undo multicast forwarding-table cache-unknown total

Default

The device can cache 1024 unknown multicast packets in total.

Views

System view

Predefined user roles

network-admin

Parameters

total-limit: Specifies the maximum number of all unknown multicast packets that can be cached. The value range for this argument is 0 to 65535. If you set the value to 0, the device cannot cache unknown multicast packets.

Usage guidelines

As a best practice, set the value in this command to be far greater than the value set in the **multicast forwarding-table cache-unknown per-entry** command.

Examples

Set the maximum number to 10000 for all unknown multicast packets that can be cached.

```
<Sysname> system-view
[Sysname] multicast forwarding-table cache-unknown total 10000
```

Related commands

multicast forwarding-table cache-unknown per-entry

multicast routing

Use **multicast routing** to enable IP multicast routing and enter MRIB view.

Use **undo multicast routing** to disable IP multicast routing.

Syntax

multicast routing [**vpn-instance** *vpn-instance-name*]

undo multicast routing [**vpn-instance** *vpn-instance-name*]

Default

IP multicast routing is disabled.

Views

System view

Predefined user roles

network-admin

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command enables IP multicast routing on the public network.

Usage guidelines

Other Layer 3 multicast commands take effect only when IP multicast routing is enabled on the public network or for a VPN instance.

The device does not forward multicast packets before IP multicast routing is enabled.

Examples

Enable IP multicast routing on the public network, and enter MRIB view.

```
<Sysname> system-view
[Sysname] multicast routing
[Sysname-mrib]
```

Enable IP multicast routing for the VPN instance **mvpn**, and enter MRIB view.

```
<Sysname> system-view
[Sysname] multicast routing vpn-instance mvpn
[Sysname-mrib-mvpn]
```

reset multicast fast-forwarding cache

Use **reset multicast fast-forwarding cache** to clear multicast fast forwarding entries.

Syntax

reset multicast [**vpn-instance** *vpn-instance-name*] **fast-forwarding cache** { { *source-address* | *group-address* } * | **all** } [**slot** *slot-number*]

Views

User view

Predefined user roles

network-admin

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command clears multicast fast forwarding entries on the public network.

source-address: Specifies a multicast source address.

group-address: Specifies a multicast group address in the range of 224.0.0.0 to 239.255.255.255.

slot *slot-number*: Specifies an IRF member device by its member ID. If you do not specify a member device, this command clears multicast fast forwarding entries for the master device.

all: Specifies all multicast fast forwarding entries.

Examples

Clear all multicast fast forwarding entries on the public network.

```
<Sysname> reset multicast fast-forwarding cache all
```

Clear the multicast fast forwarding entry for multicast source and group (20.0.0.2, 225.0.0.2) on the public network.

```
<Sysname> reset multicast fast-forwarding cache 20.0.0.2 225.0.0.2
```

Related commands

display multicast fast-forwarding cache

reset multicast forwarding event

Use **reset multicast forwarding event** to clear statistics for multicast forwarding events.

Syntax

reset multicast [**vpn-instance** *vpn-instance-name*] **forwarding event**

Views

User view

Predefined user roles

network-admin

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command clears statistics for the multicast forwarding events on the public network.

Examples

Clear statistics for multicast forwarding events on the public network.

```
<Sysname> reset multicast forwarding event
```

Related commands

display multicast forwarding event

reset multicast forwarding-table

Use **reset multicast forwarding-table** to clear multicast forwarding entries.

Syntax

reset multicast [**vpn-instance** *vpn-instance-name*] **forwarding-table** { { *source-address* [**mask** { *mask-length* | *mask* }] | *group-address* [**mask** { *mask-length* | *mask* }] | **incoming-interface** { *interface-type interface-number* } } * | **all** }

Views

User view

Predefined user roles

network-admin

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command clears multicast forwarding entries on the public network.

source-address: Specifies a multicast source address.

group-address: Specifies a multicast group address in the range of 224.0.0.0 to 239.255.255.255.

mask-length: Specifies an address mask length. The default value is 32. For a multicast group address, the value range for this argument is 4 to 32. For a multicast source address, the value range for this argument is 0 to 32.

mask: Specifies an address mask. The default is 255.255.255.255.

incoming-interface: Specifies the multicast forwarding entries that contain the specified incoming interface.

interface-type interface-number: Specifies an incoming interface by its type and number.

all: Specifies all multicast forwarding entries.

Usage guidelines

When you clear a multicast forwarding entry, the associated multicast routing entry is also cleared.

Examples

Clear multicast forwarding entries for multicast group 225.5.4.3 on the public network.

```
<Sysname> reset multicast forwarding-table 225.5.4.3
```

Related commands

display multicast forwarding-table

reset multicast routing-table

Use **reset multicast routing-table** to clear multicast routing entries.

Syntax

reset multicast [**vpn-instance** *vpn-instance-name*] **routing-table** { { *source-address* [**mask** { *mask-length* | *mask* }] | *group-address* [**mask** { *mask* | *mask-length* }] | **incoming-interface** *interface-type interface-number* } * | **all** }

Views

User view

Predefined user roles

network-admin

Parameters

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command clears multicast routing entries on the public network.

source-address: Specifies a multicast source address.

group-address: Specifies a multicast group address in the range of 224.0.0.0 to 239.255.255.255.

mask-length: Specifies an address mask length. The default value is 32. For a multicast group address, the value range for this argument is 4 to 32. For a multicast source address, the value range for this argument is 0 to 32.

mask: Specifies an address mask. The default is 255.255.255.255.

incoming-interface: Specifies the routing entries that contain the specified incoming interface.

interface-type interface-number: Specifies an incoming interface by its type and number.

all: Specifies all multicast routing entries.

Usage guidelines

When you clear a multicast routing entry, the associated multicast forwarding entry is also cleared.

Examples

Clear multicast routing entries for multicast group 225.5.4.3 on the public network.

```
<Sysname> reset multicast routing-table 225.5.4.3
```

Related commands

display multicast routing-table