1 MLD Snooping Commands

Command	Function
clear ipv6 mld snooping gda-table	Clear Multicast Listener Discovery (MLD) snooping forwarding entries.
clear ipv6 mld snooping statistics	Clear MLD snooping statistics, including the current number of entries, entry capacity, number of different types of packets, group information, and group interface information.
deny	Deny a range of multicast groups specified by a profile.
ipv6 mld profile	Create a profile.
ipv6 mld snooping	Enable MLD snooping globally and set the working mode.
ipv6 mld snooping dyn-mr-aging-time	Configure the aging time of dynamic multicast router ports.
ipv6 mld snooping fast-leave enable	Enable the port fast leave function.
ipv6 mld snooping filter	Enable multicast group filtering on a port.
ipv6 mld snooping host-aging-time	Configure the aging time for MLD snooping dynamic member ports.
ipv6 mld snooping max-groups	Configure the maximum number of multicast groups that can be dynamically learned by a port.
ipv6 mld snooping mrouter learn	Enable the function of dynamic multicast router port learning.
ipv6 mld snooping query-max-response-time	Configure the maximum response time for Query packets.
ipv6 mld snooping source-check port	Enable the source port check function.
ipv6 mld snooping suppression enable	Enable the function of Report packet suppression.
ipv6 mld snooping svgl profile	Specify a range of multicast groups applied in the MLD snooping SVGL mode.
ipv6 mld snooping svgl vlan	Specify the shared VLAN applied in the MLD snooping SVGL mode.

ipv6 mld snooping vlan	Enable the MLD snooping function on a VLAN.
ipv6 mld snooping vlan mrouter interface	Configure a static multicast router port.
ipv6 mld snooping vlan static interface	Configure a static member port.
permit	Permit a range of multicast groups defined by a profile.
range	Define a multicast group range for a profile.
show ipv6 mld profile	Display configurations of a profile.
show ipv6 mld snooping	Display MLD snooping information.
show ipv6 mld snooping gda-table	Display MLD snooping forwarding entries.
show ipv6 mld snooping interfaces	Display multicast filtering configurations on a port.
show ipv6 mld snooping mrouter	Display MLD snooping multicast router ports.
show ipv6 mld snooping statistics	Display MLD snooping statistics.

1.1 clear ipv6 mld snooping gda-table

Function

Run the **clear ipv6 mld snooping gda-table** command to clear Multicast Listener Discovery (MLD) snooping forwarding entries.

Syntax

clear ipv6 mld snooping gda-table

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

An MLD snooping forwarding entry includes the virtual local area network (VLAN) ID, multicast group address, multicast router ports, and member ports.

A VID and multicast group address uniquely identify a forwarding entry.

A forwarding entry may contain multiple multicast router ports, which may be dynamically learned or statically configured. Static multicast router ports never age.

A forwarding entry may contain multiple member ports, which may be dynamically learned or statically configured. Static member ports never age. The **clear ipv6 mld snooping gda-table** command cannot be used to delete static member ports.

Examples

The following example clears MLD snooping multicast forwarding entries.

```
Hostname> enable
Hostname# clear ipv6 mld snooping gda-table
```

Notifications

N/A

Platform Description

N/A

1.2 clear ipv6 mld snooping statistics

Function

Run the **clear ipv6 mld snooping statistics** command to clear MLD snooping statistics, including the current number of entries, entry capacity, number of different types of packets, group information, and group interface information.

Syntax

clear ipv6 mld snooping statistics

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

After you run this command, you can run the **show ipv6 mld snooping statistics** command to display the result.

Examples

The following example clears MLD snooping statistics.

```
Hostname> enable
Hostname# clear ipv6 mld snooping statistics
```

Notifications

N/A

Platform Description

N/A

1.3 deny

Function

Run the **deny** command to deny a range of multicast groups specified by a profile.

The deny action is performed for a profile by default.

Syntax

deny

Parameter Description

N/A

Command Modes

Profile configuration mode

Default Level

14

Usage Guidelines

A profile is a filter for multicast groups and referenced by other functions. To configure a profile, perform the following steps:

(1) Run the **ipv6 mld profile** command to create a profile and enter the profile configuration mode.

(2) Run the **range** command to define a multicast group range.

(3) Run the **permit** or **deny** command to permit or deny the range of multicast groups.

Examples

The following example denies multicast groups in the range of FF15::1 to FF15::100 defined by profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld profile 1
Hostname(config-profile)# range FF15::1 FF15::100
Hostname(config-profile)# deny
```

Notifications

N/A

Platform Description

N/A

Related Commands

- **ipv6 mld profile**
- **permit**
- **range**
- **show ipv6 mld profile**

1.4 ipv6 mld profile

Function

Run the **ipv6 mld profile** command to create a profile.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No profile is configured by default.

Syntax

ipv6 mld profile *profile-number*

no ipv6 mld profile *profile-number*

default ipv6 mld profile *profile-number*

Parameter Description

profile-number: Profile ID. The value range is from 1 to 1024.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

A profile is a filter for multicast groups and referenced by other functions. To configure a profile, perform the following steps:

(1) Run the **ipv6 mld profile** command to create a profile and enter the profile configuration mode.

(2) Run the **range** command to define a multicast group range.

(3) Run the **permit** or **deny** command to permit or deny the range of multicast groups.

Examples

The following example permits multicast groups in the range of FF15::1 to FF15::100 defined by profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld profile 1
Hostname(config-profile)# range FF15::1 FF15::100
Hostname(config-profile)# permit
```

Notifications

When a profile fails to be configured, the following notification will be displayed:

```
% Error: configure mld profile fail
```

Platform Description

N/A

Related Commands

- **deny**
- **permit**
- **range**
- **show ipv6 mld profile**

1.5 ipv6 mld snooping

Function

Run the **ipv6 mld snooping** command to enable MLD snooping globally and set the working mode.

Run the **no** form of this command to disable this function.

Run the **default** form of this command to restore the default configuration.

MLD snooping is disabled by default.

Syntax

ipv6 mld snooping { **ivgl** | **svgl** | **ivgl-svgl** }

no ipv6 mld snooping [**ivgl** | **svgl** | **ivgl-svgl**]

default ipv6 mld snooping [**ivgl** | **svgl** | **ivgl-svgl**]

Parameter Description

ivgl: Sets the MLD snooping working mode to Independent VLAN Group Learning (IVGL).

svgl: Sets the MLD snooping working mode to Shared VLAN Group Learning (SVGL).

ivgl-svgl: Sets the MLD snooping working mode to IVGL-SVGL.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

In IVGL mode, multicast streams in different VLANs are independent of each other. A host can request only a multicast router port in the same VLAN to receive multicast data. Upon receiving multicast data in any VLAN, the device running MLD snooping forwards the data only to member ports in the same VLAN.

In SVGL mode, hosts in different VLANs share multicast data. Hosts can request multicast data across VLANs. A shared VLAN (VLAN 1 by default) needs to be designated. Only multicast data in the shared VLAN can be forwarded to all member ports of the group address. These member ports can be in other VLANs. A profile must be used to define a range of multicast groups applied in SVGL mode. Only multicast data from this range can be forwarded across VLANs, and other multicast data will be discarded. In IVGL-SVGL mode, the IVGL and SVGL modes coexist. A profile must be used to define a range of multicast groups applied in SVGL mode. Multicast data in this range applies to the SVGL mode, and other multicast data applies to the IVGL mode.

IPv6 multicast data cannot be forwarded in super VLANs.

Examples

The following example enables MLD snooping and runs the IVGL mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping ivgl
```

The following example enables MLD snooping and runs the SVGL mode, sets the shared VLAN to VLAN 1, and sets the multicast groups associated with the SVGL mode to profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping svgl
```

```
Hostname(config)# ipv6 mld snooping svgl profile 1
```

Notifications

When the SVGL or IVGL-SVGL mode is configured before an SVGL profile is configured, the following notification will be displayed:

```
WARNING: Please remember to configure the SVGL profile!
```

Common Errors

The SVGL mode or IVGL-SVGL mode is configured before an SVGL profile is configured. When no SVGL profile is configured, all group information is filtered and no multicast data can be received.

Platform Description

N/A

Related Commands

- **ipv6 mld snooping svgl profile**
- **ipv6 mld snooping svgl vlan**
- **show ipv6 mld snooping**

1.6 ipv6 mld snooping dyn-mr-aging-time

Function

Run the **ipv6 mld snooping dyn-mr-aging-time** command to configure the aging time of dynamic multicast router ports.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

The default aging time of dynamic multicast router ports is 300s.

Syntax

ipv6 mld snooping dyn-mr-aging-time *dynamic-mroute-aging-time*

no ipv6 mld snooping dyn-mr-aging-time

default ipv6 mld snooping dyn-mr-aging-time

Parameter Description

dynamic-mroute-aging-time: Aging time of dynamic router ports, in seconds. The value range is from 1 to 3600.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If a dynamic multicast router port does not receive a general MLD Query packet or a Protocol Independent Multicast (PIM) Hello packet before the aging time, the device deletes the port from the multicast router port list.

When the dynamic multicast router port learning function is enabled, you can run this command to adjust the aging time of dynamic multicast router ports. A too short aging time may cause multicast router ports to be added and deleted frequently.

Dynamic multicast router port learning is enabled by default. If multicast router ports fail to be dynamically learned, run the **show running-config** command to check whether dynamic multicast router port learning is enabled.

Examples

The following example sets the aging time of dynamic multicast router ports to 100s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping dyn-mr-aging-time 100
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show ipv6 mld snooping**

1.7 ipv6 mld snooping fast-leave enable

Function

Run the **ipv6 mld snooping fast-leave enable** command to enable the port fast leave function.

Run the **no** form of this command to disable this function.

Run the **default** form of this command to restore the default configuration.

The port fast leave function is disabled by default.

Syntax

ipv6 mld snooping fast-leave enable

no ipv6 mld snooping fast-leave enable

default ipv6 mld snooping fast-leave enable

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the port fast leave function is enabled and a port receives a MLD Done packet, the port is directly deleted from the member port list of the corresponding multicast forwarding entry. When receiving group-specific Query packets, the device does not forward the packets to this port.

The port fast leave function is applicable when only one host is connected to each port. The function helps save bandwidth and resources.

Examples

The following example enables the port fast leave function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping fast-leave enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show ipv6 mld snooping**

1.8 ipv6 mld snooping filter

Function

Run the **ipv6 mld snooping filter** command to enable multicast group filtering on a port.

Run the **no** form of this command to disable this function.

Run the **default** form of this command to restore the default configuration.

The multicast group filtering function is disabled on a port by default.

Syntax

ipv6 mld snooping filter *profile-number*

no ipv6 mld snooping filter

default ipv6 mld snooping filter

Parameter Description

profile-number: Profile ID. The value range is from 1 to 1024.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

To specify a profile in this command, you must first create the profile.

After this command is configured on a port and the port receives a Report packet from a user host, the device checks whether the multicast address that the user host wants to join is within the multicast group range allowed by the profile. If yes, the user host can join the group. If no, the user host is not allowed to join the group.

Examples

The following example enables multicast group filtering on GigabitEthernet 0/1 and allows user hosts only to join multicast group addresses defined in profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld profile 1
Hostname(config-profile)# range FF15::1 FF15::100
Hostname(config-profile)# permit
Hostname(config-profile)# exit
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-GigabitEthernet 0/1)# ipv6 mld snooping filter 1
```

Notifications

N/A

Common Errors

When the configured *profile-number* does not exist, the following notification will be displayed:

```
% Error: The profile doesn't exist
```

When the multicast group filtering function fails to be configured, the following notification will be displayed:

```
% Error: Config interface filter fail, please try again later
```

Platform Description

N/A

Related Commands

- **show ipv6 mld snooping interfaces**

1.9 ipv6 mld snooping host-aging-time

Function

Run the **ipv6 mld snooping host-aging-time** command to configure the aging time for MLD snooping dynamic member ports.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

The default aging time of dynamic member ports is 260s.

Syntax

ipv6 mld snooping host-aging-time *host-aging-time*

no ipv6 mld snooping host-aging-time

default ipv6 mld snooping host-aging-time

Parameter Description

host-aging-time: Aging time of dynamic member ports, in seconds. The value range is from 1 to 65535.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the device running MLD snooping receives an MLD Join packet from a host to join an IPv6 multicast group, the device adds the port receiving the packet to the member port list and sets an aging time for the port.

If the port is already in the member port list, the device resets the aging timer of the port. The timer time is *host-aging-time*. If the timer times out, it is deemed that no user host receives multicast packets through this port, and then the multicast device deletes the port from the MLD snooping member port list. After this command is configured, the aging timer value of dynamic member ports is *host-aging-time* for subsequent MLD Join packets. The aging time takes effect immediately after configuration, and the started member port aging timers are updated.

Examples

The following example sets the aging time of MLD dynamic member ports to 30s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping host-aging-time 30
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- show ipv6 mld snooping

1.10 ipv6 mld snooping max-groups

Function

Run the **ipv6 mld snooping max-groups** command to configure the maximum number of multicast groups that can be dynamically learned by a port.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

The maximum number of multicast groups that can be dynamically learned by a port is 64,000 by default.

Syntax

ipv6 mld snooping max-groups *max-groups-number*

no ipv6 mld snooping max-groups

default ipv6 mld snooping max-groups

Parameter Description

max-groups-number: Maximum number of multicast groups. The value range is from 0 to 64000.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

After this command is configured and the number of multicast groups dynamically learned by a port exceeds the limit, the device no longer learns MLD Report packets over this port to create new forwarding entries.

The number of multicast groups that can be dynamically learned by a port is counted based on the VLANs to which the port belongs. For example, if a port belongs to three VLANs and the port receives requests of multicast group FF15::100 from each VLAN, the number of multicast groups dynamically learned by the port is 3 instead of 1.

Examples

The following example sets the maximum number of multicast groups that can be dynamically learned by GigabitEthernet 0/1 to **100**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-GigabitEthernet 0/1)# ipv6 mld snooping max-groups 100
```

Notifications

When the maximum number of multicast groups that can be dynamically learned by a port fails to be configured, the following notification will be displayed:

```
% Error: Configure interface max-groups fail, please try again later
```

When the number of existing multicast groups exceeds the configured maximum number of multicast groups that can be dynamically learned by a port, the following notification will be displayed:

```
% Warning: The current number(value) is greater than the new interface group
number(value), delete entries related to the interface
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show ipv6 mld snooping interfaces**

1.11 ipv6 mld snooping mrouter learn

Function

Run the **ipv6 mld snooping mrouter learn** command to enable the function of dynamic multicast router port learning.

Run the **no** form of this command to disable this function.

Run the **default** form of this command to restore the default configuration.

Dynamic multicast router port learning is enabled by default.

Syntax

ipv6 mld snooping [**vlan** *vlan-id*] **mrouter learn**

no ipv6 mld snooping [**vlan** *vlan-id*] **mrouter learn**

default ipv6 mld snooping [**vlan** *vlan-id*] **mrouter learn**

Parameter Description

vlan *vlan-id*: VLAN ID. The value range is from 1 to 4094.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

A multicast router port is a port that directly connects an MLD snooping-enabled multicast device to a neighbor multicast device in which a multicast routing protocol is enabled. When the dynamic multicast router port

learning function is enabled, the device automatically listens to the MLD Query/PIM Hello packets and dynamically identifies a multicast router port.

To dynamically learn multicast router ports, enable the dynamic multicast router port learning function.

To obtain statically configured multicast router ports, run the **ipv6 mld snooping vlan mrouter interface** command.

To disable the dynamic multicast router port learning function for all VLANs, run the **no ipv6 mld snooping mrouter learn** command.

To disable the dynamic multicast router port learning function for a specific VLAN, run the **no ipv6 mld snooping vlan** *vlan-id* **mrouter learn** command.

When the source port check function is enabled, only multicast traffic from the multicast router ports is valid and the multicast device forwards the traffic to registered ports. Multicast data from non-multicast router ports is invalid and will be discarded.

Examples

The following example enables dynamic multicast router port learning only on VLAN 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping ivgl
Hostname(config)# no ipv6 mld snooping mrouter learn
Hostname(config)# ipv6 mld snooping vlan 1 mrouter learn
```

Notifications

When dynamic multicast router port learning is enabled for a VLAN that does not exist, the following notification will be displayed:

```
% Error: Vlan does not exist
```

When dynamic multicast router port learning is enabled for a VLAN before it is enabled globally, the following notification will be displayed:

```
% Warning: Please remember to enable global mrouter learn
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show ipv6 mld snooping**

1.12 ipv6 mld snooping query-max-response-time

Function

Run the **ipv6 mld snooping query-max-response-time** command to configure the maximum response time for Query packets.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

The maximum response time for Query packets is 10s by default.

Syntax

ipv6 mld snooping query-max-response-time *query-max-response-time*

no ipv6 mld snooping query-max-response-time

default ipv6 mld snooping query-max-response-time

Parameter Description

query-max-response-time: Maximum response time for Query packets, in seconds. The value range is from 1 to 65535.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When receiving an MLD group-specific Query packet, the multicast device will start the aging timers of all member ports of the specific group. The timer time is the maximum response time for Query packets. After the timer expires, the device regards that no group member receives multicast traffic through a port and deletes the port from the MLD snooping forwarding table.

For MLDv2 group-specific Query packets, the multicast device does not update the timers.

The configured maximum response time for Query packets takes effect when the next Query packet is received.

Examples

The following example sets the maximum response time for Query packets to 100s.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping query-max-response-time 100
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show ipv6 mld snooping**

1.13 ipv6 mld snooping source-check port

Function

Run the **ipv6 mld snooping source-check port** command to enable the source port check function.

Run the **no** form of this command to disable this function.

Run the **default** form of this command to restore the default configuration.

Source port check is disabled by default.

Syntax

ipv6 mld snooping source-check port

no ipv6 mld snooping source-check port

default ipv6 mld snooping source-check port

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The source port check function is used to restrict multicast traffic to be forwarded only through multicast router ports. After this function is enabled, only multicast traffic received on multicast router ports is valid. Multicast traffic received on other ports is invalid and will be discarded. If no multicast router port exists in a VLAN, multicast traffic in the VLAN will be discarded.

When the source port check function is disabled, multicast traffic received on any port is valid and will be forwarded to the corresponding member ports.

Examples

The following example enables the source port check function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping source-check port
```

Notifications

If the device does not support the source port check function, the following notification will be displayed:

```
% Error: Device does not support source port check
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- show ipv6 mld snooping

1.14 ipv6 mld snooping suppression enable

Function

Run the **ipv6 mld snooping suppression enable** command to enable the function of Report packet suppression.

Run the **no** form of this command to disable this function.

Run the **default** form of this command to restore the default configuration.

Report packet suppression is disabled by default.

Syntax

ipv6 mld snooping suppression enable

no ipv6 mld snooping suppression enable

default ipv6 mld snooping suppression enable

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When Report packet suppression is configured, the MLD multicast device forwards only the first Report packet from a specific VLAN for a multicast group to the multicast router port and suppresses subsequent Report packets for the same multicast group during one query interval. This function helps reduce the number of packets in the network. Only MLDv1 Report packets can be suppressed, and MLDv2 Report packets cannot be suppressed.

Examples

The following example enables the Report packet suppression function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping suppression enable
```

Notifications

When the Report packet suppression function fails to be configured, the following notification will be displayed:

```
% Error: Failed to configure report suppression, please try again
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- show ipv6 mld snooping

1.15 ipv6 mld snooping svgl profile

Function

Run the **ipv6 mld snooping svgl profile** command to specify a range of multicast groups applied in the MLD snooping SVGL mode.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No multicast group is configured for the SVGL mode by default.

Syntax

ipv6 mld snooping svgl profile *profile-number*

no ipv6 mld snooping svgl profile

default ipv6 mld snooping svgl profile

Parameter Description

profile-number: Profile ID. The value range is from 1 to 1024.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If the device running MLD snooping operates in SVGL or IVGL-SVGL mode, the multicast groups associated with the SVGL mode must be configured.

First, define the multicast groups applied in the SVGL mode in a profile. Then, apply this profile in this command.

Examples

The following example applies profile 2 to the SVGL mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld profile 2
```

```
Hostname(config-profile)# range FF15::1 FF15::100
Hostname(config-profile)# permit
Hostname(config-profile)# exit
Hostname(config)# ipv6 mld snooping svgl profile 2
```

Notifications

When the configured *profile-number* does not exist, the following notification will be displayed:

```
% Error: The profile doesn't exist
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **ipv6 mld profile**
- **ipv6 mld snooping**
- **show ipv6 mld snooping**

1.16 ipv6 mld snooping svgl vlan

Function

Run the **ipv6 mld snooping svgl vlan** command to specify the shared VLAN applied in the MLD snooping SVGL mode.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

The default shared VLAN is VLAN 1.

Syntax

ipv6 mld snooping svgl vlan *vlan-id*

no ipv6 mld snooping svgl vlan

default ipv6 mld snooping svgl vlan

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094, and the default value is **1**.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If the device running MLD snooping operates in SVGL or IVGL-SVGL mode, you can run this command to configure the SVGL shared VLAN.

Examples

The following example sets the shared VLAN applied in SVGL mode to VLAN 5.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping svgl vlan 5
```

Notifications

When the configured *vlan-id* does not exist, the following notification will be displayed:

```
% Error: The vlan does not exist
```

When the configured *vlan-id* is a remote switched port analyzer (SPAN) VLAN, the following notification will be displayed:

```
% Warning: Remote span vlan does not support MLD SNOOPING
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **ipv6 mld snooping**
- **show ipv6 mld snooping**

1.17 ipv6 mld snooping vlan

Function

Run the **ipv6 mld snooping vlan** command to enable the MLD snooping function on a VLAN.

Run the **no** form of this command to disable this function.

Run the **default** form of this command to restore the default configuration.

When MLD snooping is enabled globally, it takes effect to all VLANs.

Syntax

ipv6 mld snooping vlan *vlan-id*

no ipv6 mld snooping vlan *vlan-id*

default ipv6 mld snooping vlan *vlan-id*

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the MLD snooping function in IVGL or IVGL-SVGL mode is enabled globally, you can run the **no ipv6 mld snooping vlan** *vlan-id* command to disable the MLD snooping function on a specific VLAN.

Examples

The following example enables the MLD snooping function in IVGL mode globally and disables the function on VLAN 2.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping ivgl
Hostname(config)# no ipv6 mld snooping vlan 2
```

Notifications

When the configuration command in SVGL mode is incorrect, the following notification will be displayed:

```
% Error: This command is invalid in SVGL mode
```

When MLD snooping is enabled for a VLAN that does not exist, the following notification will be displayed:

```
% Error: Vlan does not exist
```

When the command is configured on a dynamic VLAN, the following notification will be displayed:

```
% Error: This command does not support dynamic vlan
```

When MLD snooping is enabled on a VLAN before it is enabled globally, the following notification will be displayed:

```
% Warning: Please remember to enable global mld snooping
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show ipv6 mld snooping**

1.18 ipv6 mld snooping vlan mrouter interface

Function

Run the **ipv6 mld snooping vlan mrouter interface** command to configure a static multicast router port.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No static multicast router port is configured by default.

Syntax

ipv6 mld snooping vlan *vlan-id* **mrouter interface** *interface-type interface-number*

no ipv6 mld snooping vlan *vlan-id* **mrouter interface** *interface-type interface-number*

default ipv6 mld snooping vlan *vlan-id* **mrouter interface** *interface-type interface-number*

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094.

interface-type interface-number: Interface name.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

To dynamically learn multicast router ports, run the **ipv6 mld snooping vlan mrouter learn** command.

To configure a static multicast router port, run the **ipv6 mld snooping vlan mrouter interface** command. If a port is configured as a static multicast router port, the device can forward all received multicast traffic over this port.

When the source port check function is enabled, only multicast traffic from the multicast router ports is valid and the multicast device forwards the traffic to registered ports. Multicast data from non-multicast router ports is invalid and will be discarded.

Examples

The following example sets the static multicast router port of VLAN 1 to GigabitEthernet 0/1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping vlan 1 mrouter interface gigabitethernet 0/1
```

Notifications

When a static multicast router port is configured for a VLAN that does not exist, the following notification will be displayed:

```
% Error: Vlan does not exist
```

When the port to be configured as a static multicast router port is an aggregation member port, the following notification will be displayed:

```
% Error: Interface must not be member of aggregateport
```

When the port to be configured as a static multicast router port is not in the corresponding VLAN, the following notification will be displayed:

```
% Error: Interface must be in the vlan you assigned
```

When a static multicast router port fails to be configured, the following notification will be displayed:

```
% Error: Failed to configure static mroute port, please try again
```

When the number of configured static multicast router ports exceeds the limit, the following notification will be displayed:

```
% Error: MLD snooping was trying to configure static mrouter interface than what allowed (max_num)
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show ipv6 mld snooping mrouter**

1.19 ipv6 mld snooping vlan static interface

Function

Run the **ipv6 mld snooping vlan static interface** command to configure a static member port.

Run the **no** form of this command to remove this configuration.

Run the **default** form of this command to restore the default configuration.

No static member port is configured by default.

Syntax

ipv6 mld snooping vlan *vlan-id* **static** *ipv6-group-address* **interface** *interface-type interface-number*

no ipv6 mld snooping vlan *vlan-id* **static** *ipv6-group-address* **interface** *interface-type interface-number*

default ipv6 mld snooping vlan *vlan-id* **static** *ipv6-group-address* **interface** *interface-type interface-number*

Parameter Description

vlan-id: VLAN ID. The value range is from 1 to 4094.

ipv6-group-address: Multicast group address.

interface-type interface-number: Interface name.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

An MLD snooping forwarding entry includes the VID, multicast group address, multicast router ports, and member ports.

A VID and multicast group address uniquely identify a forwarding entry.

A forwarding entry may contain multiple multicast router ports, which may be dynamically learned or statically configured. Static multicast router ports never age.

A forwarding entry may contain multiple member ports, which may be dynamically learned or statically configured. Static member ports never age. The **clear ipv6 mld snooping gda-table** command cannot be used to delete static member ports.

Examples

The following example sets the static member port of multicast group FF88::1 in VLAN 1 to GigabitEthernet 0/1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld snooping vlan 1 static FF88::1 interface
gigabitethernet 0/1
```

Notifications

When the multicast group address is invalid, the following notification will be displayed:

```
% Error: Invalid group address
```

When the port to be configured as a static member port is an aggregation member port, the following notification will be displayed:

```
% Error: Interface must not be member of aggregateport
```

When the port to be configured as a static member port is not in the corresponding VLAN, the following notification will be displayed:

```
% Error: Interface must be in the vlan you assigned
```

When a static member port fails to be configured, the following notification will be displayed:

```
% Error: Failed to configure static interface, please try again
```

When the number of configured static member ports exceeds the limit, the following notification will be displayed:

```
% Error: MLD snooping was trying to configure static interface than what allowed
(max_num)
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **show ipv6 mld snooping gda-table**

1.20 permit

Function

Run the **permit** command to permit a range of multicast groups defined by a profile.

The deny action is performed for a profile by default.

Syntax

permit

Parameter Description

N/A

Command Modes

Profile configuration mode

Default Level

14

Usage Guidelines

A profile is a filter for multicast groups and referenced by other functions. To configure a profile, perform the following steps:

(1) Run the **ipv6 mld profile** command to create a profile and enter the profile configuration mode.

(2) Run the **range** command to define a multicast group range.

(3) Run the **permit** or **deny** command to permit or deny the range of multicast groups.

Examples

The following example permits multicast groups in the range of FF15::1 to FF15::100 defined by profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld profile 1
Hostname(config-profile)# range FF15::1 FF15::100
Hostname(config-profile)# permit
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **deny**
- **ipv6 mld profile**
- **range**
- **show ipv6 mld profile**

1.21 range

Function

Run the **range** command to define a multicast group range for a profile.

Run the **no** form of this command to remove this configuration.

No multicast group range is defined for a profile by default.

Syntax

range *low-ipv6-address* [*high-ipv6-address*]

no range *low-ipv6-address* [*high-ipv6-address*]

Parameter Description

low-ipv6-address: Start IP address of a multicast group range.

high-ipv6-address: End IP address of a multicast group range.

Command Modes

Profile configuration mode

Default Level

14

Usage Guidelines

A profile is a filter for multicast groups and referenced by other functions. To configure a profile, perform the following steps:

(1) Run the **ipv6 mld profile** command to create a profile and enter the profile configuration mode.

(2) Run the **range** command to define a multicast group range.

(3) Run the **permit** or **deny** command to permit or deny the range of multicast groups.

Examples

The following example permits multicast groups in the range of FF15::1 to FF15::100 defined by profile 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 mld profile 1
Hostname(config-profile)# range FF15::1 FF15::100
Hostname(config-profile)# permit
```

Notifications

When *low-ipv6-address* is not a multicast address, the following notification will be displayed:

```
% Error: min_ip(low-ip-address) is not multicast address
```

When *high-ipv6-address* is not a multicast address, the following notification will be displayed:

```
% Error: max_ip(high-ip-address) is not multicast address
```

When *low-ipv6-address* is greater than*high-ipv6-addres*, the following notification will be displayed:

```
% Error: range min_ip(low-ip-address) larger than max_ip(high-ip-address)
```

When the profile to which a multicast group range belongs does not exist, the following notification will be displayed:

```
% Error: The profile doesn't exist
```

When a multicast group range fails to be configured, the following notification will be displayed:

```
% Error: configure profile range fail, please try again
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **deny**
- **ipv6 mld profile**
- **permit**
- **show ipv6 mld profile**

1.22 show ipv6 mld profile

Function

Run the **show ipv6 mld profile** command to display configurations of a profile.

Syntax

show ipv6 mld profile [*profile-number*]

Parameter Description

profile-number: Profile ID. The value range is from 1 to 1024. If this parameter is not configured, configurations of all profiles are displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display information about configured profiles. If the *profile-number* parameter is not specified, configurations of all profiles are displayed.

Examples

The following example displays information about all configured profiles.

```
Hostname> enable
Hostname# show ipv6 mld profile
ipv6 mld profile     1
```

```
  permit
  range FF15::1 FF15::100
ipv6 mld profile     2
  deny
  range FF88::1  FF88::100
```

Table 1-1Output Fields of the show ipv6 mld profile Command

Field	Description
profile profile-number	Profile ID
permit/deny	Filtering action of a multicast group range
range *low-ipv6-address high-ipv6-address*	Group range, from the start address to the end address

The following example displays configurations of profile 1.

```
Hostname# show ipv6 mld profile 1
ipv6 mld profile     1
  permit
  range FF15::1 FF15::100
```

Notifications

If you try to query the configuration of a single profile whose *profile-number* has not been configured, the following notification will be displayed:

```
No profile
```

Platform Description

N/A

1.23 show ipv6 mld snooping

Function

Run the **show ipv6 mld snooping** command to display MLD snooping information.

Syntax

show ipv6 mld snooping [**vlan** *vlan-id*]

Parameter Description

vlan *vlan-id*: Specifies a VLAN. If this parameter is not specified, configurations of all VLANs are displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the MLD snooping status and parameters globally or on a specific VLAN.

Examples

The following example displays MLD snooping configurations.

- IVGL mode:

```
Hostname> enable
Hostname# show ipv6 mld snooping
MLD-snooping mode: IVGL
Source port check: Disable
MLD Fast-Leave: Disable
MLD Report suppress: Disable
Query Max Respone Time: 10 (Seconds)
Dynamic Mroute Aging Time: 300(Seconds)
Dynamic Host Aging Time: 260(Seconds)
vlan 1
MLD Snooping state: Enabled
Multicast router learning mode: Enable
MLD Fast-Leave: Enabled
MLD VLAN Mode: STATIC
```

- SVGL mode:

```
Hostname# show ipv6 mld snooping
MLD-snooping mode: SVGL
SVGL vlan: 1
SVGL profile number: 1
Source port check: Disable
MLD Fast-Leave: Disable
MLD Report suppress: Disable
Query Max Respone Time: 10 (Seconds)
Dynamic Mroute Aging Time: 300(Seconds)
Dynamic Host Aging Time: 260(Seconds)
```

- IVGL-SVGL mode:

```
Hostname# show ipv6 mld snooping
MLD-snooping mode: IVGL-SVGL
SVGL vlan: 1
SVGL profile number: 1
Source port check: Disable
MLD Fast-Leave: Disable
MLD Report suppress: Disable
Query Max Respone Time: 10 (Seconds)
Dynamic Mroute Aging Time: 300(Seconds)
Dynamic Host Aging Time: 260(Seconds)
vlan 1
----None
```

```
MLD Snooping state: Enabled
Multicast router learning mode: Enable
MLD Fast-Leave: Enabled
MLD VLAN Mode: STATIC
```

Table 1-1 Output Fields of the show ipv6 mld snooping Command

Field	Description
MLD-snooping mode	Current MLD snooping working mode
Source port check	Whether the source port check function is enabled
MLD Fast-Leave	Whether the fast leave function is enabled
MLD Report suppress	Whether Report packet suppression is enabled
Query Max Response Time	Maximum response time for Query packets
Dynamic Mroute Aging Time	Aging time of dynamic multicast router ports
Dynamic Host Aging Time	Aging time of dynamic member ports
SVGL vlan	Shared VLAN in SVGL or IVGL-SVGL mode
SVGL profile number:	Multicast groups associated with the SVGL or IVGL-SVGL mode
Multicast router learning mode:	Dynamic multicast router port learning
MLD VLAN mode:	VLAN mode

Notifications

N/A

Platform Description

N/A

1.24 show ipv6 mld snooping gda-table

Function

Run the **show ipv6 mld snooping gda-table** command to display MLD snooping forwarding entries.

Syntax

show ipv6 mld snooping gda-table

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays MLD snooping forwarding entries.

```
Hostname> enable
Hostname# show ipv6 mld snooping gda-table
Multicast Switching Cache Table
  D: DYNAMIC
  S: STATIC
  M: MROUTE
(*, FF15::100, 1):
  VLAN(1) 2 OPORTS:
    GigabitEthernet 3/1(SM)
GigabitEthernet 3/7(DSM)
```

Table 1-1 Output Fields of the show ipv6 mld snooping gda-table Command

Field	Description
VLAN	VLAN to which a port belongs
D: DYNAMIC	Dynamic member port
S: STATIC	Static member port
M: MROUTE	Multicast router port

Notifications

N/A

Platform Description

N/A

1.25 show ipv6 mld snooping interfaces

Function

Run the **show ipv6 mld snooping interfaces** command to display multicast filtering configurations on a port.

Syntax

show ipv6 mld snooping interfaces [*interface-type interface-number*]

Parameter Description

interface-type interface-number: Interface name.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

If no parameter is configured, configurations of all ports are displayed.

Examples

The following example displays multicast filtering configurations on a port.

```
Hostname> enable
Hostname# show ipv6 mld snooping interfaces GigabitEthernet 0/1
       Interface               Filter profile number        max-group
GigabitEthernet 0/1            1                            102
Hostname# show ipv6 mld snooping interfaces
       Interface               Filter profile number        max-group
GigabitEthernet 3/1                                         20
```

Table 1-1 Output Fields of the show ipv6 mld snooping interfaces Command

Field	Description
Interface	Interface name.
Filter profile number	Profile referenced for multicast group filtering on a port. If no profile is configured, this parameter is not displayed.
max-group	Maximum number of multicast groups that can be dynamically learned by a port. If this parameter is not configured or is set to the default value, this parameter is not displayed.

Notifications

When configurations of a non-L2 port are queried, the following notification will be displayed:

```
% Error: Interface is not switchport port
```

When configurations of an aggregation member port are queried, the following notification will be displayed:

```
% Error: Interface must not be member of aggregateport
```

Platform Description

N/A

1.26 show ipv6 mld snooping mrouter

Function

Run the **show ipv6 mld snooping mrouter** command to display MLD snooping multicast router ports.

Syntax

show ipv6 mld snooping mrouter

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays MLD snooping multicast router ports.

```
Hostname> enable
Hostname# show ipv6 mld snooping mrouter
Multicast Switching Mroute Port
  D: DYNAMIC
  S: STATIC
(*, *, 2):
  VLAN(2)  1 MROUTES:
GigabitEthernet 3/1(DS)
```

Table 1-1 Output Fields of the show ipv6 mld snooping mrouter Command

Field	Description
VLAN	VLAN to which a port belongs
D: DYNAMIC	Dynamic multicast router port
S: STATIC	Static multicast router port

Notifications

N/A

Platform Description

N/A

1.27 show ipv6 mld snooping statistics

Function

Run the **show ipv6 mld snooping statistics** command to display MLD snooping statistics.

Syntax

show ipv6 mld snooping statistics [**vlan** *vlan-id*]

Parameter Description

vlan *vlan-id*: Specifies a VLAN. The value range is from 1 to 4094. If this parameter is not specified, configurations of all VLANs are displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays MLD snooping statistics.

```
Hostname> enable
Hostname# show ipv6 mld snooping statistics
Current number of Gda-table entries: 1
Configured Statistics database limit: 65536
Current number of MLD Listener Query packet received: 0
Current number of MLDv1 Listener Report packet received: 10
Current number of MLDv2 Listener Report packet received: 0
Current number of MLD Listener Done packet received: 0
Current number of PIM packet received: 0
GROUP      Interface   Reporter         Last join         Last leave   Report
pkts    Leave pkts
FF15::1    VL1:Gi0/8   FE80::1          0d:0h:0m:5s        --        1
0
ff15::100  VL1:Gi3/1   --             --              --        0
0
```

Table 1-1 Output Fields of the show ipv6 mld snooping statistics Command

Field	Description
Current number of Gda-table entries	Number of forwarding entries
Configured Statistics database limit	Maximum number of L2 multicast entries
Current number of MLD Listener Query packet received	Number of Query packets received

Field	Description
Current number of MLDv1 Listener Report packet received	Number of MLDv1 Report packets received
Current number of MLDv2 Listener Report packet received	Number of MLDv2 Report packets received
Current number of MLD Listener Done packet received	Number of MLD Done packets received
Current number of PIM packet received	PIM packet data received
GROUP	Group information
Interface	Interface information, which VLAN an interface belongs to
Reporter	Source IP address that sends the last Report packet, which is represented by ---- during static configuration and process restart and restoration
Last join	Interval since the last Report packet is sent, which is represented by ---- during static configuration and process restart and restoration
Last leave	Interval since the last MLD Done packet is sent, which is represented by ---- during static configuration and process restart and restoration
Report pkts	Number of Report packets that are received on a port in a VLAN, which is 0 during static configuration and process restart and restoration
Leave pkts	Number of Leave packets that are received on a port in a VLAN, which is 0 during static configuration and process restart and restoration

Notifications

N/A

Platform Description

N/A