MLD Snooping Commands

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ipv6 mld snooping (Global)

To enable IPv6 Multicast Listener Discovery (MLD) snooping, use the **ipv6 mld snooping** command in Global Configuration mode. To return to the default, use the **no** form of this command.

Syntax

ipv6 mld snooping

no ipv6 mld snooping

Default Configuration

IPv6 MLD snooping is disabled.

Command Mode

Global Configuration mode

Example

The following example enables IPv6 MLD snooping.

```
switchxxxxxx(config)# ipv6 mld snooping
```

ipv6 mld snooping vlan

To enable MLD snooping on a specific VLAN, use the **ipv6 mld snooping vlan** command in Global Configuration mode. To return to the default, use the **no** form of this command.

Syntax

ipv6 mld snooping vlan *vlan-id*

no ipv6 mld snooping vlan *vlan-id*

Parameters

- ***vlan-id***—Specifies the VLAN.

Default Configuration

Disabled

Command Mode

Global Configuration mode

User Guidelines

MLD snooping can only be enabled on static VLANs.

MLDv1 and MLDv2 are supported.

Example

```
switchxxxxxx(config)# ipv6 mld snooping vlan 2
```

ipv6 mld snooping querier

To enable globally the MLD Snooping querier, use the **ipv6 mld snooping querier** command in Global Configuration mode. To disable the MLD Snooping querier globally, use the **no** form of this command.

Syntax

ipv6 mld snooping querier

no ipv6 mld snooping querier

Default Configuration

Enabled

Command Mode

Global Configuration mode

User Guidelines

To run the MLD Snooping querier on a VLAN, you have enable it globally and on the VLAN.

Example

The following example disables the MLD Snooping querier globally:

```
switchxxxxxx(config)# no ipv6 mld snooping querier
```

ipv6 mld snooping vlan querier

To enable the Internet MLD Snooping querier on a specific VLAN, use the **ipv6 mld snooping vlan querier** command in Global Configuration mode. To return to the default, use the **no** form of this command.

Syntax

ipv6 mld snooping vlan *vlan-id* **querier**

no ipv6 mld snooping vlan *vlan-id* **querier**

Parameters

- ***vlan-id***—Specifies the VLAN.

Default Configuration

Disabled

Command Mode

Global Configuration mode

User Guidelines

The MLD Snooping querier can be enabled on a VLAN only if MLD Snooping is enabled for that VLAN.

Example

The following example enables the MLD Snooping querier on VLAN 1:

```
switchxxxxxx(config)# ipv6 mld snooping vlan 1 querier
```

ipv6 mld snooping vlan querier election

To enable MLD Querier election mechanism of an MLD Snooping querier on a specific VLAN, use the **ipv6 mld snooping vlan querier election** command in Global Configuration mode. To disable Querier election mechanism, use the **no** form of this command.

Syntax

ipv6 mld snooping vlan *vlan-id* **querier election**

no ipv6 mld snooping vlan *vlan-id* **querier election**

Parameters

- ***vlan-id***—Specifies the VLAN.

Default Configuration

Enabled

Command Mode

Global Configuration mode

User Guidelines

Use the **no** form of the **ipv6 mld snooping vlan querier election** command to disable MLD Querier election mechanism on a VLAN.

If the MLD Querier election mechanism is enabled, the MLD Snooping querier supports the standard MLD Querier election mechanism specified in RFC2710 and RFC3810.

If MLD Querier election mechanism is disabled, MLD Snooping Querier delays sending General Query messages for 60 seconds from the time it was enabled. During this time, if the switch did not receive an IGMP query from another Querier - it starts sending General Query messages. Once the switch acts as a Querier, it will stop sending General Query messages if it detects another Querier on the VLAN. In this case, the switch will resume sending General Query messages if it does hear another Querier for Query Passive interval that equals to

<Robustness>*<Query Interval> + 0.5*<Query Response Interval).

It is recommended to disable MLD Querier election mechanism if there is an IPMv6 Multicast router on the VLAN.

Example

The following example disables MLD Snooping Querier election on VLAN 1:

```
switchxxxxxx(config)# no ipv6 mld snooping vlan 1 querier election
```

ipv6 mld snooping vlan querier version

To configure the IGMP version of an IGMP querier on a specific VLAN, use the **ipv6 mld snooping vlan querier version** command in Global Configuration mode. To return to the default, use the **no** form of this command.

Syntax

ipv6 mld snooping vlan *vlan-id* **querier version** {**1** | **2**}

no ipv6 mld snooping vlan *vlan-id* **querier version**

Parameters

- ***vlan-id***—Specifies the VLAN.
- **querier version** {**1** | **2**}—Specifies the MLD version.

Default Configuration

MLDv1.

Command Mode

Global Configuration mode

Example

he following example sets the version of the MLD Snooping Querier VLAN 1 to 2:

```
switchxxxxxx(config)# ipv6 mld snooping vlan 1 querier version 2
```

ipv6 mld snooping vlan mrouter

To enable automatic learning of Multicast router ports, use the **ipv6 mld snooping vlan mrouter** command in Global Configuration mode. To remove the configuration, use the **no** form of this command.

Syntax

ipv6 mld snooping vlan *vlan-id* **mrouter learn pim-dvmrp**

no ipv6 mld snooping vlan *vlan-id* **mrouter learn pim-dvmrp**

Parameters

- ***vlan-id***—Specifies the VLAN.
- **pim-dvmrp**—Learn Multicast router port by PIM, DVMRP and MLD messages.

Default Configuration

Learning **pim-dvmrp** is enabled.

Command Mode

Global Configuration mode

User Guidelines

You can execute the command before the VLAN is created.

Example

```
switchxxxxxx(config)# ipv6 mld snooping vlan 1 mrouter learn pim-dvmrp
```

ipv6 mld snooping vlan mrouter interface

To define a port that is connected to a Multicast router port, use the **ipv6 mld snooping mrouter interface** command in Global Configuration mode. To return to the default, use the **no** form of this command.

Syntax

ipv6 mld snooping vlan *vlan-id* **mrouter interface** *interface-list*

no ipv6 mld snooping vlan *vlan-id* **mrouter interface** *interface-list*

Parameters

- ***vlan-id***—Specifies the VLAN.
- ***interface-list***—Specifies a list of interfaces. The interfaces can be from one of the following types: port or port-channel.

Default Configuration

No ports defined

Command Mode

Global Configuration mode

User Guidelines

A port that is defined as a Multicast router port receives all MLD packets (reports and queries) as well as all Multicast data.

You can execute the command before the VLAN is created and for a range of ports as shown in the example.

Example

```
switchxxxxxx(config)# interface gi1/0/1
switchxxxxxx(config-if)# ipv6 mld snooping vlan 1 mrouter interface gi1/0/1-4
```

ipv6 mld snooping vlan forbidden mrouter

To forbid a port from being defined as a Multicast router port by static configuration or by automatic learning, use the **ipv6 mld snooping vlan forbidden mrouter** command in Global Configuration mode. To return to the default, use the **no** form of this command.

Syntax

ipv6 mld snooping *vlan vlan-id* **forbidden mrouter** *interface interface-list*

no ipv6 mld snooping *vlan vlan-id* **forbidden mrouter** *interface interface-list*

Parameters

- ***vlan-id***—Specifies the VLAN.
- ***interface-list***—Specifies list of interfaces. The interfaces can be of one of the following types: Ethernet port or Port-channel.

Default Configuration

No forbidden ports by default

Command Mode

Global Configuration mode

User Guidelines

A port that is forbidden to be defined as a Multicast router port (mrouter port) cannot be learned dynamically or assigned statically.

You can execute the command before the VLAN is created.

Example

```
switchxxxxxx(config)# ipv6 mld snooping vlan 1 forbidden mrouter interface gi1/0/1
```

ipv6 mld snooping vlan static

To register a IPv6-layer Multicast address to the bridge table, and to add statically ports to the group, use the **ipv6 mld snooping vlan static** command in Global Configuration mode. To return to the default, use the **no** form of this command.

Syntax

ipv6 mld snooping vlan *vlan-id* **static** *ipv6-address* [**interface** *interface-list*]

no ipv6 mld snooping vlan *vlan-id* **static** *ipv6-address* [**interface** *interface-list*]

Parameters

- ***vlan-id***—Specifies the VLAN.
- ***ipv6-address***—Specifies the IP multicast address
- **interface** *interface-list*—(Optional) Specifies list of interfaces. The interfaces can be from one of the following types: Ethernet port or Port-channel.

Default Configuration

No Multicast addresses are defined.

Command Mode

Global Configuration mode

User Guidelines

Static multicast addresses can only be defined on static VLANs.

You can execute the command before the VLAN is created.

You can register an entry without specifying an interface.

Using the **no** command without a port-list removes the entry.

Example

```
switchxxxxxx(config)# ipv6 mld snooping vlan 1 static FF12::3 gi1/0/1
```

ipv6 mld snooping vlan immediate-leave

To enable MLD Snooping Immediate-Leave processing on a VLAN, use the **ipv6 mld snooping vlan immediate-leave** command in Global Configuration mode. To return to the default, use the **no** form of this command.

Syntax

ipv6 mld snooping vlan *vlan-id* **immediate-leave**

no ipv6 mld snooping vlan *vlan-id* **immediate-leave**

Parameters

vlan-id—Specifies the VLAN ID value. (Range: 1–4094)

Default Configuration

Disabled

Command Mode

Global Configuration mode

User Guidelines

When an MLD Leave Group message is received from a host, the system removes the host port from the table entry. After it relays the MLD queries from the Multicast router, it deletes entries periodically if it does not receive any MLD membership reports from the Multicast clients.

MLD snooping Immediate-Leave processing allows the switch to remove an interface that sends a leave message from the forwarding table without first sending out MAC-based general queries to the interface.

You can execute the command before the VLAN is created.

Example

```
switchxxxxxx(config)# ipv6 mld snooping vlan 1 immediate-leave
```

show ipv6 mld snooping groups

To display the multicast groups learned by the MLD snooping, use the **show ipv6 mld snooping groups** EXEC mode command in User EXEC mode.

Syntax

show ipv6 mld snooping groups [**vlan** *vlan-id*] [**address** *ipv6-multicast-address*] [**source** *ipv6-address*]

Parameters

- **vlan** *vlan-id*—(Optional) Specifies the VLAN ID.
- **address** *ipv6-multicast-address*—(Optional) Specifies the IPv6 multicast address.
- **source** *ipv6-address*—(Optional) Specifies the IPv6 source address.

Command Mode

User EXEC mode

Default Configuration

Display information for all VLANs and addresses defined on them.

User Guidelines

The Include list contains the ports which are in a forwarding state for this group according to the snooping database. In general, the Exclude list contains the ports which have issued an explicit Exclude for that specific source in a multicast group.

The Reporters That Are Forbidden Statically list contains the list of ports which have asked to receive a multicast flow but were defined as forbidden for that multicast group in a multicast bridge.

Note: Under certain circumstances, the Exclude list may not contain accurate information; for example, in the case when two Exclude reports were received on the same port for the same group but for different sources, the port will not be in the Exclude list but rather in the Include list

Example

The following example shows the output for show ipv6 mld snooping groups.

```
switchxxxxxx# show ipv6 mld snooping groups

VLAN  Group Address  Source Address          Include Ports  Exclude Ports  Compatibility Mode
----  -------------  ----------------------  -------------  -------------  ------------------
1     FF12::3        FE80::201:C9FF:FE40:8001 gi1/0/1        gi1/0/2        1
1     FF12::3        FE80::201:C9FF:FE40:8002 gi1/0/2        gi1/0/3        1
19    FF12::8        FE80::201:C9FF:FE40:8003 gi1/0/4                       2
19    FF12::8        FE80::201:C9FF:FE40:8004 gi1/0/1                       2
19    FF12::8        FE80::201:C9FF:FE40:8005 gi1/0/10-11                   2

MLD Reporters that are forbidden statically:
```

VLAN	Group Address	Source Address	Ports
1	FF12::3	FE80::201:C9FF:FE40:8001	gi1/0/3
19	FF12::8	FE80::201:C9FF:FE40:8001	gi1/0/4

show ipv6 mld snooping interface

To display the IPv6 MLD snooping configuration for a specific VLAN, use the **show ipv6 mld snooping interface** EXEC mode command in User EXEC mode.

Syntax

show ipv6 mld snooping interface *vlan-id*

Parameters

- ***vlan-id***—Specifies the VLAN ID.

Default Configuration

Display information for all VLANs.

Command Mode

User EXEC mode

Example

The following example displays the MLD snooping configuration for VLAN 1000.

```
switchxxxxxx# show ipv6 mld snooping interface 1000
MLD Snooping is globally enabled
MLD Snooping Querier is globally enabled
VLAN 1000
  MLD Snooping is enabled
  MLD snooping last immediate leave: enable
  Automatic learning of multicast router ports is enabled
  MLD Snooping Querier is enabled
  MLD Snooping Querier operation state: is running
  MLD Snooping Querier version: 2
  MLD Snooping Querier election is enabled
  MLD snooping robustness: admin 2  oper 2
  MLD snooping query interval: admin 125 sec oper 125 sec
  MLD snooping query maximum response: admin 10 sec oper 10 sec
  MLD snooping last member query counter: admin 2 oper 2
  MLD snooping last member query interval: admin 1000 msec oper 500 msec
  Groups that are in MLD version 1 compatibility mode:
    FF12::3, FF12::8
```

show ipv6 mld snooping mrouter

To display information on dynamically learned Multicast router interfaces for all VLANs or for a specific VLAN, use the **show ipv6 mld snooping mrouter** EXEC mode command in User EXEC mode.

Syntax

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

Parameters

- **interface** *vlan-id*—(Optional) Specifies the VLAN ID.

Default Configuration

Display information for all VLANs.

Command Mode

User EXEC mode

Example

The following example displays information on dynamically learned Multicast router interfaces for VLAN 1000:

```
switchxxxxxx# show ipv6 mld snooping mrouter interface 1000
```

VLAN	Dynamic	Static	Forbidden
----	---------	---------	----------
1000	gi1/0/1	gi1/0/2	gi1/0/3-4