Configure IGMP Snooping Settings on a Switch through the CLI

Introduction

Multicast is a technology created to conserve bandwidth. It is typically used to transmit data packets from one host to multiple hosts. To allow routers to distribute multicasts out one of its ports, they use a protocol called Internet Group Management Protocol (IGMP). Hosts send an IGMP join message to get a multicast stream. When a router receives an IGMP join message at one of its interfaces, it knows there are hosts interested in joining a multicast stream and sends it out. In early switches, multicast traffic was forwarded on all ports, even if only one host needs to receive it. IGMP snooping was developed to limit multicast traffic to only the requesting host or hosts.

When IGMP snooping is enabled, the switch detects the IGMP messages exchanged between the IPv4 router and the multicast hosts attached to the interfaces. It then maintains a table that forwards IPv4 multicast traffic to the ports that need to receive them.

The following configurations are prerequisites for configuring IGMP:

1. Configure VLAN Interface Settings on a Sx350, SG350X, or Sx550X Switch. For instructions, click here.
2. Configure Multicast Properties on a Switch. For instructions, click here.

Note: Multicast Listener Discovery (MLD) performs a similar function to IGMP, but for IPv6. If you purchased a switch that supports IPv6 and your infrastructure supports IPv6 multicast, then you can configure MLD. This is independent of IGMP snooping. If you prefer to configure MLD snooping through the CLI, click here.

This article provides instructions on how to configure the IGMP settings on your switch, through the Command Line Interface (CLI). If you prefer to configure IGMP or MLD Snooping Settings using a graphical user interface (GUI), click here.

Applicable Devices

- Sx350 Series
- SG350X Series
- Sx550X Series

Software Version

- 2.3.0.130

Configure IGMP Snooping

Configure Global IGMP Snooping

Step 1. Log in to the switch console. The default username and password is cisco/cisco. If you have configured a new username or password, enter the credentials instead.
Note: To learn how to access an SMB switch CLI through SSH or Telnet, click here.

Note: The commands may vary depending on the exact model of your switch. In this example, the SG350X switch is accessed through Telnet.

Step 2. From the Privileged EXEC mode of the switch, enter the Global Configuration mode by entering the following:

```
SG350X# configure
SG350X(config)#
```

Step 3. To globally enable IGMP snooping on the switch, enter the following:

```
SG350X(config)# ip igmp snooping
```

Step 4. (Optional) To globally enable IGMP snooping querier, enter the following:

```
SG350X(config)# ip igmp snooping querier
```

You should now have successfully configured the global IGMP snooping settings on your switch.

**Configure IGMP Snooping Settings on a VLAN**

Step 1. To enable IGMP snooping on a specific VLAN, enter the following:

```
SG350X(config)#
ip igmp snooping vlan [vlan-id]
```

- **vlan-id** — Specifies the VLAN ID value. The range is from one up to 4094.

Step 2. (Optional) To allow the multicast router to automatically learn the connected ports, enter the following:

```
SG350X(config)#
ip igmp snooping vlan [vlan-id] mrouter learn pim-dvmp
```

Step 3. (Optional) To enable the IGMP snooping Immediate Leave processing on a VLAN, enter the following:

```
SG350X(config)#
```
Step 4. In the Global Configuration mode, enter the VLAN Interface Configuration context by entering the following:

```
[SG350X(config)#]
interface [vlan-id]
```

Step 5. To configure the IGMP last member query counter, enter the following:

```
[SG350X(config-if)#]
ip igmp last-member-query-count [count]
```

- count — The number of times that group or group-source-specific queries are sent upon receipt of a message indicating a leave. The range is from one to seven.

Note: In this example, the last member query counter is set to 3.

Step 6. Enter the `exit` command to go back to the Global Configuration mode:

```
[SG350X(config)#]
exit
```

Step 7. To enable the IGMP Snooping querier on a specific VLAN, enter the following:

```
[SG350X(config)#]
ip igmp snooping vlan [vlan-id] querier
```

Step 8. To enable IGMP querier election mechanism of an IGMP snooping querier on a specific VLAN, enter the following:

```
[SG350X(config)#]
ip igmp snooping vlan [vlan-id] querier election
```
Step 9. To configure the IGMP version of an IGMP Snooping querier on a specific VLAN, enter the following:

```
SG350X(config)#ip igmp snooping vlan [vlan-id] querier version [2 | 3]
```

**Note:** In this example, version 3 is used.

Step 10. To define the source IP address that the IGMP snooping querier uses, enter the following:

```
SG350X(config)#ip igmp snooping vlan [vlan-id] querier [ip-address]
```

**Note:** If an IP address is configured for the VLAN, it is used as the source address of the IGMP snooping querier. If there are multiple IP addresses, the minimum IP address defined on the VLAN is used.

**Note:** In this example, 192.168.100.112 is used. If an IP address is not configured by this command, and no IP address is configured for the VLAN of the querier, the querier is disabled.

Step 11. Enter the `exit` command to go back to the Privileged EXEC mode:

```
SG350X(config)#exit
```

You should now have successfully configured the IGMP snooping settings on your switch through the CLI.

**Display IGMP Snooping Settings on a VLAN**

Step 1. To display the IGMP snooping configuration for a specific VLAN, enter the following:
Note: In this example, the IGMP snooping settings for VLAN 30 are displayed.

Step 2. (Optional) In the Privileged EXEC mode of the switch, save the configured settings to the startup configuration file by entering the following:

```
SG350X#copy running-config startup-config
```

Step 3. (Optional) Press Y for Yes or N for No on your keyboard once the Overwrite file [startup-config]... prompt appears.

```
SG350X#copy running-config startup-config
Overwrite file [startup-config]... (Y/N)[N] ?
```

You should now have displayed the IGMP settings on a VLAN on your switch through the CLI.

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