

Configure Multicast Properties on a Switch through the CLI

Objective

Multicast forwarding enables one-to-many information dissemination. Multicast applications are useful for dissemination of information to multiple clients, where clients do not require reception of the entire content. A typical application is a cable-TV-like service, where clients can join a channel in the middle of a transmission, and leave before it ends.

The data is sent only to relevant ports. Forwarding the data only to the relevant ports conserves bandwidth and host resources on links.

By default, all Multicast frames are flooded to all ports of the Virtual Local Area Network (VLAN). It is possible to selectively forward only to relevant ports and filter (drop) the Multicast on the rest of the ports by enabling the Bridge Multicast filtering status on the switch.

This article explains how to enable multicast filtering and to define the way by which IPv6 and IPv4 address type multicast frames are forwarded on the switch through the Command Line Interface (CLI).

Applicable Devices

- Sx300 Series
- Sx350 Series
- SG350X Series
- Sx500 Series
- Sx550X Series

Software Version

- 1.4.7.06 — Sx300, Sx500
- 2.2.8.04 — Sx350, SG350X, Sx550X

Configure Multicast Properties

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](#).

```
User Name:cisco
Password:*****
```

Note: The commands may vary depending on the exact model of your switch. In this example, the SG350X-48MP 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
```

Step 3. To enable the filtering of Multicast addresses, enter the following:

```
SG350X(config)#bridge multicast filtering
```

```
SG350X#configure
SG350X(config)#bridge multicast filtering
SG350X(config)#
```

Step 4. In the Global Configuration mode, enter the Interface Configuration context by entering the following:

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

- vlan-id — Specifies an VLAN ID to be configured.

```
SG350X#configure
SG350X(config)#bridge multicast filtering
SG350X(config)#interface vlan 30
SG350X(config-if)#
```

Note: In this example, VLAN 30 is entered.

Step 5. To configure the Multicast bridging mode for IPv4 Multicast packets, enter the following:

```
SG350X(config-if)#bridge multicast mode [mac-group | ipv4-
group | ipv4-src-group
```

- mac-group — Specifies that Multicast bridging is based on the VLAN and Media Access Control (MAC) address of the packet.
- ipv4-group — Specifies that Multicast bridging is based on the VLAN of the packet, and MAC address for non-IPv4 packets, and on the VLAN and IPv4 destination address for IPv4 packets.
- ipv4-src-group — Specifies that Multicast bridging is based on the VLAN of the packet, and MAC address for non-IPv4 packets, and on the VLAN, IPv4 destination address, and IPv4 source address for IPv4 packets.

```
[SG350X#configure
[SG350X(config)#bridge multicast filtering
[SG350X(config)#interface vlan 30
[SG350X(config-if)#bridge multicast mode ipv4-group
[SG350X(config-if)#
```

Note: In this example, frame forwarding is done by the destination IP address.

Step 6. To configure the Multicast bridging mode for IPv6 Multicast packets, enter the following:

```
SG350X(config-if)#bridge multicast ipv6 mode [mac-group | ipv6-
group | ipv6-src-group
```

- mac-group — Specifies that Multicast bridging is based on the VLAN and MAC address of the packet.
- ip-group — Specifies that Multicast bridging is based on the VLAN and IPv6 destination address for IPv6 packets.
- ip-src-group — Specifies that Multicast bridging is based on the VLAN, IPv6 destination address, and IPv6 source address for IPv6 packets.

```
[SG350X#configure
[SG350X(config)#bridge multicast filtering
[SG350X(config)#interface vlan 30
[SG350X(config-if)#bridge multicast mode ipv4-group
[SG350X(config-if)#bridge multicast ipv6 mode ip-group
[SG350X(config-if)#
```

Note: In this example, frame forwarding is done by the destination IP address.

Step 7. Enter the end command to go back to the Privileged EXEC mode:

```
SG350X(config-if)#end
```

```
[SG350X#configure
[SG350X(config)#bridge multicast filtering
[SG350X(config)#interface vlan 30
[SG350X(config-if)#bridge multicast mode ipv4-group
[SG350X(config-if)#bridge multicast ipv6 mode ip-group
[SG350X(config-if)#end
[SG350X#
```

Step 8. (Optional) To display the Multicast bridging mode for all VLANs or for a specific VLAN, enter the following:

```
SG350X#show bridge multicast mode [vlan vlan-id]
```

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

```
SG350X# show bridge multicast mode vlan 30
```

VLAN	IPv4 Multicast mode		IPv6 Multicast mode	
	Admin	Oper	Admin	Oper
30	IPv4-Group	IPv4-Group	IPv6-Group	IPv6-Group

```
SG350X#
```

Step 9. (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
```

```
SG550XG#copy running-config startup-config
Overwrite file [startup-config]... (Y/N)[N] ?
```

Step 10. (Optional) Press **Y** for Yes or **N** for No on your keyboard once the Overwrite file [startup-config]... prompt appears.

```
SG550XG#copy running-config startup-config
Overwrite file [startup-config]... (Y/N)[N] ?Y
18-Sep-2017 08:00:45 %COPY-I-FILECPY: Files Copy - source URL running-config destination
URL flash://system/configuration/startup-config
18-Sep-2017 08:00:47 %COPY-N-TRAP: The copy operation was completed successfully
SG550XG#
```

You should now have successfully configured the Multicast properties on your switch through the CLI.