



IGMP Static Group Range Support

First Published: July 10, 2006

Last Updated: July 10, 2006

The IGMP Static Group Range Support feature introduces the capability to configure group ranges in class maps and attach class maps to the **ip igmp static-group** command. This feature is an enhancement that simplifies the administration of networks with devices that require many interfaces to be configured with many different **ip igmp static-group** command configurations.

Finding Feature Information in This Module

Your Cisco IOS software release may not support all of the features documented in this module. To reach links to specific feature documentation in this module and to see a list of the releases in which each feature is supported, use the “[Feature Information for IGMP Static Group Range Support](#)” section on page 20.

Finding Support Information for Platforms and Cisco IOS and Catalyst OS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS and Catalyst OS software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

Contents

- [Information About IGMP Static Group Range Support, page 2](#)
- [How to Configure IGMP Static Group Range Support, page 4](#)
- [Configuration Examples for IGMP Static Group Range Support, page 8](#)
- [Additional References, page 10](#)
- [Command Reference, page 11](#)
- [Feature Information for IGMP Static Group Range Support, page 20](#)



Corporate Headquarters:

Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

© 2006 Cisco Systems, Inc. All rights reserved.

Information About IGMP Static Group Range Support

To configure the IGMP Static Group Range Support feature, you should understand the following concepts:

- [IGMP Static Group Range Support Overview, page 2](#)
- [Class Maps for IGMP Static Group Range Support, page 2](#)
- [Benefits of IGMP Static Group Range Support, page 4](#)

IGMP Static Group Range Support Overview

Prior to the introduction of the IGMP Static Group Range Support feature in Cisco IOS Release 12.2(18)SXF5, the **ip igmp static-group** command did not provide an option to specify group ranges. Administering devices that required many **ip igmp static-group** command configurations was challenging in some network environments, because each static group had to be configured individually with the **ip igmp static-group** command, which resulted in configurations that were excessively long and difficult to manage.

The IGMP Static Group Range Support feature introduces the capability to configure group ranges in class maps and attach class maps to the **ip igmp static-group** command. This feature is an enhancement that simplifies the administration of networks with devices that require many interfaces to be configured with many different **ip igmp static-group** command configurations.

Class Maps for IGMP Static Group Range Support

A class is a way of identifying a set of packets based on its contents. A class is designated through class maps. Typically, class maps are used to create traffic policies. Traffic policies are configured using the modular quality of service (QoS) command-line interface (CLI) (MQC). The normal procedure for creating traffic policies entails defining a traffic class (using the **class-map** command), creating a traffic policy (using the **policy-map** command), and attaching the policy to an interface (using the **service-policy** command).



Note

Although this feature uses the MQC to define class maps, the procedure for configuring Internet Group Management Protocol (IGMP) static group class maps is different from the normal procedure used to create class maps for configuring QoS traffic policies. See the [“General Procedure for Configuring IGMP Group Range Support”](#) section for more information.

The IGMP Static Group Range Support feature introduces a type of class map that is used to define group ranges, group addresses, SSM channels, and SSM channel ranges. Once created, the class map can be attached to interfaces.

General Procedure for Configuring IGMP Group Range Support

To configure the IGMP Static Group Range Support feature, you would complete the following procedure:

1. Create an IGMP static group class map (using the **class-map type multicast-flows** command).
2. Define the group entries associated with the class map (using the **group** command).
3. Attach the class map to an interface (using the **ip igmp static-group** command).

The **class-map type multicast-flows** command is used to enter multicast-flows class-map configuration mode to create or modify an IGMP static group class map.

Unlike QoS class maps, which are defined by specifying numerous match criteria, IGMP static group class maps are defined by specifying multicast groups entries (group addresses, group ranges, Source Specific Multicast (SSM) channels, and SSM channel ranges). The following forms of the group command are entered from multicast-flows class-map configuration mode to define group entries to associate with the class map:

- **group group-address**
Defines a group address to be associated with an IGMP static group class map.
- **group group-address to group-address**
Defines a range of group addresses to be associated with an IGMP static group class map.
- **group group-address source source-address**
Defines an SSM channel to be associated with an IGMP static group class map.
- **group group-address to group-address source source-address**
Defines a range of SSM channels to be associated with an IGMP static group class map.

Unlike QoS class maps, IGMP static group range class maps are not configured in traffic policies. Rather, the **ip igmp static-group** command has been extended to support IGMP static group ranges. After creating an IGMP static group class map, you can attach the class map to interfaces using the **ip igmp static-group** command with the **class-map** keyword and *class-map-name* argument. Once a class map is attached to an interface, all group entries defined in the class map become statically connected members on the interface and are added to the IGMP cache and IP multicast route (mroute) table.

Additional Guidelines for Configuring IGMP Static Group Range Support

- Only one IGMP static group class map can be attached to an interface.
- If an IGMP static group class map is modified (that is, if group entries are added to or removed from the class map using the **group** command), the group entries that are added to or removed from the IGMP static group class map are added to or deleted from the IGMP cache and the mroute table, respectively.
- If an IGMP static group class map is replaced on an interface by another class map using the **ip igmp static-group** command, the group entries associated with old class map are removed, and the group entries defined in the new class map are added to the IGMP cache and mroute table.

- The **ip igmp static-group** command accepts an IGMP static group class map for the *class-map-name* argument, regardless of whether the class map configuration exists. If a class map attached to an interface does not exist, the class map remains inactive. Once the class map is configured, all group entries associated with the class map are added to the IGMP cache and mroute table.
- If a class map is removed from an interface using the **no** form of the **ip igmp static-group** command, all group entries defined in the class map are removed from the IGMP cache and mroute tables.

Benefits of IGMP Static Group Range Support

The IGMP Static Group Range Support feature provides the following benefits:

- Simplifies the administration of devices that require many interfaces to be configured with many different **ip igmp static-group** command configurations by introducing the capability to configure group ranges in class maps and attach class maps to the **ip igmp static-group** command.
- Reduces the number of commands required to administer devices that require many **ip igmp static-group** command configurations.

How to Configure IGMP Static Group Range Support

This procedure contains the following tasks:

- [Configuring IGMP Static Group Range Support, page 4](#) (required)
- [Verifying IGMP Static Group Range Support, page 6](#) (optional)

Configuring IGMP Static Group Range Support

The IGMP Static Group Range Support feature is an enhancement that simplifies the administration of devices that require many interfaces to be configured with many different **ip igmp static-group** command configurations by introducing the capability to configure group ranges in class maps and attach class maps to the **ip igmp static-group** command.

Perform this task to configure IGMP static group class maps and attach class maps to the **ip igmp static-group** command.



Note

Although the IGMP Static Group Range Support feature uses the MQC to define class maps, the procedure for configuring IGMP static group class maps is different from the normal procedure used to create class maps for configuring QoS traffic policies. For more information about IGMP static group class maps, including configuration guidelines, see the [“Class Maps for IGMP Static Group Range Support”](#) section.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **class-map type multicast-flows class-map-name**
4. **group group-address [to group-address] [source source-address]**

5. Repeat Step 4 to add group entries to the class map in Step 3.
6. Repeat Step 3 to Step 5, if you want to create additional class maps.
7. **exit**
8. **interface** *type number*
9. **ip igmp static-group class-map** *class-map-name*
10. Repeat Step 8 and 9, if you want to attach class maps to additional interfaces.
11. **end**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Router> enable	Enables privileged EXEC mode. Enter your password if prompted.
Step 2	configure terminal Example: Router# configure terminal	Enters global configuration mode.
Step 3	class-map type multicast-flows <i>class-map-name</i> Example: Router(config)# class-map type multicast-flows static1	Enters multicast-flows class map configuration mode to create or modify an IGMP static group class map.
Step 4	group <i>group-address</i> [to <i>group-address</i>] [source <i>source-address</i>] Example: Router(config-mcast-flows-cmap)# group 232.1.1.7 to 232	Defines the group entries to be associated with the class map. - Specify the optional to keyword and <i>group-address</i> argument to define a range of multicast groups. - Specify the optional source keyword and <i>source-address</i> argument to define a (S, G) channel or a range of (S, G) channels.
Step 5	Repeat Step 4 to add group entries to the class map in Step 3.	—
Step 6	Repeat Step 3 to Step 5, if you want to create additional class maps.	—
Step 7	exit Example: Router(config-mcast-flows-cmap)# exit	Exits multicast-flows class-map configuration mode and returns to global configuration mode.
Step 8	interface <i>type number</i> Example: Router(config)# interface FastEthernet 0/1	Enters interface configuration mode.

	Command or Action	Purpose
Step 9	<pre>ip igmp static-group class-map class-map-name</pre> Example: Router(config-if)# ip igmp static-group class-map static1	Attaches an IGMP static group class map to the interface. Once a class map is attached to an interface, all group entries defined in the class map become statically connected members on the interface and are added to the IGMP cache and mroute table.
Step 10	Repeat Step 8 and 9, if you want to attach class maps to additional interfaces.	—
Step 11	<pre>end</pre> Example: Router(config-if)# end	Exits interface configuration mode, and enters privileged EXEC mode.

Verifying IGMP Static Group Range Support

Perform this optional task to verify the contents of IGMP static group class maps configurations, and to confirm that all group entries defined in class maps were added to the IGMP cache and the mroute table after you attach class maps to interfaces.

SUMMARY STEPS

1. **show ip igmp static-group class-map [interface [type number]]**
2. **show ip igmp groups [group-name | group-address | interface-type interface-number] [detail]**
3. **show ip mroute**

DETAILED STEPS

Step 1 **show ip igmp static-group class-map [interface [type number]]**

Use this command to display the contents of IGMP static group class maps and the interfaces using class maps:

- Specify the **interface** keyword to filter the output to display only the interfaces using class maps.
- Specify the **interface** keyword and the *type number* arguments to filter the output to display only the class map attached to a particular interface.

The following is sample output from the **show ip igmp static-group class-map** command:

```
Router# show ip igmp static-group class-map
```

```
Class-map static1
```

```
Group address range 228.8.8.7 to 228.8.8.9
```

```
Group address 232.8.8.7, source address 10.1.1.10
```

```
Interfaces using the classmap:
```

```
Loopback0
```

```
Class-map static
```

```
Group address range 232.7.7.7 to 232.7.7.9, source address 10.1.1.10
```

```
Group address 227.7.7.7
```

```
Group address range 227.7.7.7 to 227.7.7.9
```

```
Group address 232.7.7.7, source address 10.1.1.10
```

```
Interfaces using the classmap:
```

```
Ethernet3/1
```

The following is sample output from the **show ip igmp static-group class-map** command with the **interface** keyword:

```
Router# show ip igmp static-group class-map interface
```

```
Loopback0
  Class-map attached: static1
```

```
Ethernet3/1
  Class-map attached: static
```

The following is sample output from the **show ip igmp static-group class-map** command with the **interface** keyword and *type number* arguments:

```
Router# show ip igmp static-group class-map interface Ethernet 3/1
```

```
Ethernet3/1
  Class-map attached: static
```

Step 2 **show ip igmp groups** [*group-name* | *group-address* | *interface-type interface-number*] [**detail**]

Use this command to display the multicast groups with receivers that are directly connected to the router and that are learned through IGMP.

When verifying an IGMP static group range configuration, use this command after attaching a class map to confirm that the group entries defined in the class map were added to the IGMP cache.

The following is sample output from the **show ip igmp groups** command:

```
Router# show ip igmp groups
```

```
IGMP Connected Group Membership
Group Address      Interface      Uptime    Expires    Last Reporter
232.7.7.7          Ethernet3/1    00:00:09  stopped    0.0.0.0
232.7.7.9          Ethernet3/1    00:00:09  stopped    0.0.0.0
232.7.7.8          Ethernet3/1    00:00:09  stopped    0.0.0.0
227.7.7.7          Ethernet3/1    00:00:09  stopped    0.0.0.0
227.7.7.9          Ethernet3/1    00:00:09  stopped    0.0.0.0
227.7.7.8          Ethernet3/1    00:00:09  stopped    0.0.0.0
224.0.1.40         Ethernet3/2    01:44:50  00:02:09   10.2.2.5
224.0.1.40         Loopback0      01:45:22  00:02:32   10.3.3.4
```

Step 3 **show ip mroute**

Use this command to display the contents of the mroute table.

When verifying an IGMP static group range configuration, use this command after attaching a class map to confirm that group entries defined in the class map were added to the mroute table.

The following is sample output from the **show ip mroute** command:

```
Router# show ip mroute
```

```
IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report, Z - Multicast Tunnel
       Y - Joined MDT-data group, y - Sending to MDT-data group
Outgoing interface flags: H - Hardware switched, A - Assert winner
Timers: Uptime/Expires
Interface state: Interface, Next-Hop or VCD, State/Mode

(10.1.1.10, 232.7.7.7), 00:00:17/00:02:42, flags: sTI
```

```

Incoming interface: Ethernet3/2, RPF nbr 10.2.2.5
Outgoing interface list:
  Ethernet3/1, Forward/Sparse-Dense, 00:00:17/00:02:42

(10.1.1.10, 232.7.7.9), 00:00:17/00:02:42, flags: sTI
Incoming interface: Ethernet3/2, RPF nbr 10.2.2.5
Outgoing interface list:
  Ethernet3/1, Forward/Sparse-Dense, 00:00:17/00:02:42

(10.1.1.10, 232.7.7.8), 00:00:18/00:02:41, flags: sTI
Incoming interface: Ethernet3/2, RPF nbr 10.2.2.5
Outgoing interface list:
  Ethernet3/1, Forward/Sparse-Dense, 00:00:18/00:02:41

(*, 227.7.7.7), 00:00:18/00:02:41, RP 10.2.2.6, flags: SJC
Incoming interface: Ethernet3/2, RPF nbr 10.2.2.6
Outgoing interface list:
  Ethernet3/1, Forward/Sparse-Dense, 00:00:18/00:02:41

(*, 227.7.7.9), 00:00:18/00:02:41, RP 10.2.2.6, flags: SJC
Incoming interface: Ethernet3/2, RPF nbr 10.2.2.6
Outgoing interface list:
  Ethernet3/1, Forward/Sparse-Dense, 00:00:18/00:02:41

(*, 227.7.7.8), 00:00:18/00:02:41, RP 10.2.2.6, flags: SJC
Incoming interface: Ethernet3/2, RPF nbr 10.2.2.6
Outgoing interface list:
  Ethernet3/1, Forward/Sparse-Dense, 00:00:18/00:02:41

(*, 224.0.1.40), 00:01:40/00:02:23, RP 10.2.2.6, flags: SJCL
Incoming interface: Ethernet3/2, RPF nbr 10.2.2.6
Outgoing interface list:
  Loopback0, Forward/Sparse-Dense, 00:01:40/00:02:23

```

Configuration Examples for IGMP Static Group Range Support

This section provides the following configuration examples:

- [Configuring IGMP Static Group Support: Example, page 8](#)
- [Verifying IGMP Static Group Support: Example, page 9](#)

Configuring IGMP Static Group Support: Example

The following example shows how to configure a class map and attach the class map to an interface. In this example, a class map named static is configured and attached to Ethernet interface 3/1.

```

class-map type multicast-flows static
group 227.7.7.7
group 232.7.7.7 to 232.7.7.9 source 10.1.1.10
group 232.7.7.7 source 10.1.1.10
group 227.7.7.7 to 227.7.7.9
.
.
.

```

```

!
interface Ethernet3/1
 ip address 192.168.1.2 255.255.255.0
 ip pim sparse-dense-mode
 ip igmp static-group class-map static
!

```

Verifying IGMP Static Group Support: Example

The following is sample output from the **show ip igmp static-group class-map** command. In this example, the output displays the contents of the IGMP static group class map named static (the class map configured in the “[Configuring IGMP Static Group Support: Example](#)” section).

```
Router# show ip igmp static-group class-map
```

```

Class-map static
  Group address range 227.7.7.7 to 227.7.7.9
  Group address 232.7.7.7, source address 10.1.1.10
  Group address range 232.7.7.7 to 232.7.7.9, source address 10.1.1.10
  Group address 227.7.7.7
  Interfaces using the classmap:
    Ethernet3/1

```

The following is sample output from the **show ip igmp groups** command. In this example, the command is issued to confirm that the group entries defined in the class map named static (the class map configured in the “[Configuring IGMP Static Group Support: Example](#)” section) were added to the IGMP cache.

```
Router# show ip igmp groups
```

```

IGMP Connected Group Membership
Group Address      Interface      Uptime    Expires    Last Reporter
232.7.7.7          Ethernet3/1    00:00:09  stopped    0.0.0.0
232.7.7.9          Ethernet3/1    00:00:09  stopped    0.0.0.0
232.7.7.8          Ethernet3/1    00:00:09  stopped    0.0.0.0
227.7.7.7          Ethernet3/1    00:00:09  stopped    0.0.0.0
227.7.7.9          Ethernet3/1    00:00:09  stopped    0.0.0.0
227.7.7.8          Ethernet3/1    00:00:09  stopped    0.0.0.0
224.0.1.40         Ethernet3/2    01:44:50  00:02:09   10.2.2.5
224.0.1.40         Loopback0      01:45:22  00:02:32   10.3.3.4

```

The following is sample output from the **show ip mroute** command. In this example, the command is issued to confirm that the group entries defined in the class map named static (the class map configured in the “[Configuring IGMP Static Group Support: Example](#)” section) were added to the mroute table.

```
Router# show ip mroute
```

```

IP Multicast Routing Table
Flags: D - Dense, S - Sparse, B - Bidir Group, s - SSM Group, C - Connected,
       L - Local, P - Pruned, R - RP-bit set, F - Register flag,
       T - SPT-bit set, J - Join SPT, M - MSDP created entry,
       X - Proxy Join Timer Running, A - Candidate for MSDP Advertisement,
       U - URD, I - Received Source Specific Host Report, Z - Multicast Tunnel
       Y - Joined MDT-data group, y - Sending to MDT-data group
Outgoing interface flags: H - Hardware switched, A - Assert winner
Timers: Uptime/Expires
Interface state: Interface, Next-Hop or VCD, State/Mode

(10.1.1.10, 232.7.7.7), 00:00:17/00:02:42, flags: sTI
  Incoming interface: Ethernet3/2, RPF nbr 10.2.2.5
  Outgoing interface list:
    Ethernet3/1, Forward/Sparse-Dense, 00:00:17/00:02:42

```

```
(10.1.1.10, 232.7.7.9), 00:00:17/00:02:42, flags: sTI
  Incoming interface: Ethernet3/2, RPF nbr 10.2.2.5
  Outgoing interface list:
    Ethernet3/1, Forward/Sparse-Dense, 00:00:17/00:02:42

(10.1.1.10, 232.7.7.8), 00:00:18/00:02:41, flags: sTI
  Incoming interface: Ethernet3/2, RPF nbr 10.2.2.5
  Outgoing interface list:
    Ethernet3/1, Forward/Sparse-Dense, 00:00:18/00:02:41

(*, 227.7.7.7), 00:00:18/00:02:41, RP 10.2.2.6, flags: SJC
  Incoming interface: Ethernet3/2, RPF nbr 10.2.2.6
  Outgoing interface list:
    Ethernet3/1, Forward/Sparse-Dense, 00:00:18/00:02:41

(*, 227.7.7.9), 00:00:18/00:02:41, RP 10.2.2.6, flags: SJC
  Incoming interface: Ethernet3/2, RPF nbr 10.2.2.6
  Outgoing interface list:
    Ethernet3/1, Forward/Sparse-Dense, 00:00:18/00:02:41

(*, 227.7.7.8), 00:00:18/00:02:41, RP 10.2.2.6, flags: SJC
  Incoming interface: Ethernet3/2, RPF nbr 10.2.2.6
  Outgoing interface list:
    Ethernet3/1, Forward/Sparse-Dense, 00:00:18/00:02:41

(*, 224.0.1.40), 00:01:40/00:02:23, RP 10.2.2.6, flags: SJCL
  Incoming interface: Ethernet3/2, RPF nbr 10.2.2.6
  Outgoing interface list:
    Loopback0, Forward/Sparse-Dense, 00:01:40/00:02:23
```

Additional References

The following sections provide references related to the IGMP Static Group Range Support feature.

Related Documents

Related Topic	Document Title
IP multicast commands: complete command syntax, command modes, command history, defaults, usage guidelines, and examples	Cisco IOS IP Multicast Configuration Guide , Release 12.4
IP multicast concepts, configuration tasks, and examples	Cisco IOS IP Multicast Command Reference , Release 12.4T

Standards

Standard	Title
No new or modified standards are supported by this feature, and support for existing standards has not been modified by this feature.	—

MIBs

MIB	MIBs Link
No new or modified MIBs are supported by this feature, and support for existing MIBs has not been modified by this feature.	To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

RFCs

RFC	Title
No new or modified RFCs are supported by this feature, and support for existing RFCs has not been modified by this feature.	—

Technical Assistance

Description	Link
The Cisco Technical Support & Documentation website contains thousands of pages of searchable technical content, including links to products, technologies, solutions, technical tips, tools, and technical documentation. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/techsupport

Command Reference

This section documents new and modified commands only.

New Commands

- [class-map type multicast-flows](#)
- [group \(multicast-flows\)](#)
- [show ip igmp static-group class-map](#)

Modified Command

- [ip igmp static-group](#)

class-map type multicast-flows

To enter multicast-flows class-map configuration mode to create or modify an Internet Group Management Protocol (IGMP) static group class map, use the **class-map type multicast-flows** command in global configuration mode. To delete an IGMP static group range class map, use the **no** form of this command.

class-map type multicast-flows *class-map-name*

no class-map type multicast-flows *class-map-name*

Syntax Description	<i>class-map-name</i> Name of the IGMP static group class map to be created or modified.				
Command Default	No IGMP static group class maps are configured.				
Command Modes	Global configuration				
Command History	<table> <tr> <th>Release</th><th>Modification</th></tr> <tr> <td>12.2(18)SXF5</td><td>This command was introduced.</td></tr> </table>	Release	Modification	12.2(18)SXF5	This command was introduced.
Release	Modification				
12.2(18)SXF5	This command was introduced.				

Usage Guidelines

Use the **class-map type multicast-flows** command to enter multicast-flows class-map configuration mode to create or modify IGMP static group class maps.

Unlike quality of service (QoS) class maps, which are defined by specifying numerous match criteria, IGMP static group class maps are defined by specifying multicast groups entries (group addresses, group ranges, Source Specific Multicast [SSM] channels, and SSM channel ranges). The **group** command is used to define the group entries to be associated with a class map.

After using the **class-map type multicast-flows** command to specify the name of the IGMP static group class map to be created or modified, use the following forms of the **group** command in multicast-flows class-map configuration mode to define the group entries to be associated with the class map:

- **group** *group-address*
Defines a group address to be associated with an IGMP static group class map.
- **group** *group-address to group-address*
Defines a range of group addresses to be associated with an IGMP static group class map.
- **group** *group-address source source-address*
Defines an SSM channel to be associated with an IGMP static group class map.
- **group** *group-address to group-address source source-address*
Defines a range of SSM channels to be associated with an IGMP static group class map.

Unlike QoS class maps, IGMP static group range class maps are not configured in traffic policies. Rather, the **ip igmp static-group** command has been extended to support IGMP static group ranges. After creating a IGMP static group class map, you can attach the class map to interfaces using the

ip igmp static-group command with the **class-map** keyword and *class-map-name* argument. Once a class map is attached to an interface, all group entries defined in the class map become statically connected members on the interface and are added to the IGMP cache and IP multicast route (mroute) table.

Additional Guidelines for Configuring IGMP Static Group Class Maps

- Only one IGMP static group class map can be attached to an interface.
- If an IGMP static group class map is modified (that is, if group entries are added to or removed from the class map using the **group** command), the group entries that are added to or removed from the IGMP static group class map are added to or deleted from the IGMP cache and the IP multicast route (mroute) table, respectively.
- If an IGMP static group class map attached to an interface is replaced on the interface by another class map using the **ip igmp static-group** command, the group entries associated with old class map are removed, and the group entries defined in the new class map are added to the IGMP cache and mroute table.
- The **ip igmp static-group** command accepts an IGMP static group class map for the *class-map-name* argument, regardless of whether the class map configuration exists. If a class map attached to an interface does not exist, the class map remains inactive. Once the class map is configured, all group entries associated with the class map are added to the IGMP cache and mroute table.
- If a class map is removed from an interface using the **no** form of the **ip igmp static-group** command, all group entries defined in the class map are removed from the IGMP cache and mroute tables.

Use the **show ip igmp static-group class-map** command to display the contents of IGMP static group class map configurations and information about the interfaces using class maps.

Examples

The following example shows how to create a class map named static1 and enter multicast-flows class-map configuration mode:

```
Router(config)# class-map type multicast-flows static1
Router(config-mcast-flows-cmap)#
```

Related Commands

Command	Description
group (multicast-flows)	Defines the group entries to be associated with an IGMP static group class map.
ip igmp static-group	Configures static group membership entries on an interface.
show ip igmp static-group class-map	Displays the contents of IGMP static group class map configurations and the interfaces using class maps.

group (multicast-flows)

To define the group entries to be associated with an Internet Group Management Protocol (IGMP) static group class map, use the **group** command in class-map multicast-flows configuration mode. To delete an entry from an IGMP static group class map, use the **no** form of this command.

group *group-address* [**to** *group-address*] [**source** *source-address*]

no group *group-address* [**to** *group-address*] [**source** *source-address*]

Syntax Description

<i>group-address</i>	Group address to be associated with an IGMP static group class map.
to <i>group-address</i>	(Optional) Defines a range of multicast groups to be associated with an IGMP static group class map.
source <i>source-address</i>	(Optional) Defines a (S, G) channel or a range of (S, G) channels to be associated with an IGMP static group class map.

Command Default

No group entries are defined in IGMP static group class maps.

Command Modes

Class-map multicast-flows configuration

Command History

Release	Modification
12.2(18)SXF5	This command was introduced.

Usage Guidelines

Use the **group** command to define group entries to be associated with an IGMP static group class map. You can use this command only after entering the **class-map type multicast-flows** command to enter multicast-flows class-map configuration mode to create or modify an IGMP static group class map.

Once you enter multicast-flows class-map configuration mode, use the following forms of the **group** command to define the group entries to be associated with an IGMP static group class map:

- **group** *group-address*
Defines a group address to be associated with an IGMP static group class map.
- **group** *group-address to group-address*
Defines a range of group addresses to be associated with an IGMP static group class map.
- **group** *group-address source source-address*
Defines an SSM channel to be associated with an IGMP static group class map.
- **group** *group-address to group-address source source-address*
Defines a range of SSM channels to be associated with an IGMP static group class map.

After creating an IGMP static group class map, you can attach the class map to interfaces using the **ip igmp static-group** command with the **class-map** keyword and *class-map-name* argument. Once a class map is attached to an interface, all group entries defined in the class map become statically connected members on the interface and are added to the IGMP cache and IP multicast route (mroute) table.

Examples

The following example shows how to define a range of group addresses to be associated with an IGMP static group class map named test:

```
class-map type multicast-flows test
group 227.7.7.7 to 227.7.7.9
```

Related Commands

Command	Description
class-map type multicast-flows	Enters multicast-flows class-map configuration mode to create or modify IGMP static group class maps.
ip igmp static-group	Configures static group membership entries on an interface.
show ip igmp static-group class-map	Displays the contents of IGMP static group class map configurations and the interfaces using class maps.

ip igmp static-group

To configure static group membership entries on an interface, use the **ip igmp static-group** command in interface configuration mode. To delete static group membership entries, use the **no** form of this command.

ip igmp static-group { * | *group-address* [**source** { *source-address* | **ssm-map** }] | **class-map** *class-map-name* }

no ip igmp static-group { * | *group-address* [**source** { *source-address* | **ssm-map** }] | **class-map** *class-map-name* }

Syntax Description

*	Places the interface into all created multicast route (mroute) entries.
<i>group-address</i>	IP multicast group address to configure as a static group member on the interface.
source	(Optional) Statically forwards a (S, G) channel out of the interface.
<i>source-address</i>	(Optional) IP address of a system where multicast data packets originate.
ssm-map	(Optional) Configures Source Specific Multicast (SSM) mapping to be used on the interface to determine the source associated with this group. The resulting (S, G) channels are statically forwarded.
class-map <i>class-map-name</i>	Attaches an Internet Group Management Protocol (IGMP) static group range class map to the interface.

Command Default

No static group membership entries are configured on interfaces.

Command Modes

Interface configuration

Command History

Release	Modification
11.2	This command was introduced.
12.3(2)T	The ssm-map keyword was added.
12.2(18)S	The ssm-map keyword was added.
12.2(18)SXD3	This command was integrated into Cisco IOS Release 12.2(18)SXD3.
12.2(27)SBC	This command was integrated into Cisco IOS Release 12.2(27)SBC.
12.2(18)SXF	The class-map keyword and <i>class-map-name</i> argument were added.

Usage Guidelines

Use the **ip igmp static-group** command to configure static group membership entries on an interface. When you configure the **ip igmp static-group** command, packets to the group are fast-switched out the interface, provided that packets were received on the correct reverse path forwarding (RPF) interface. Once configured, static group membership entries are added to the IGMP cache and mroute table.

Configuring the **ip igmp static-group** command is unlike configuring the **ip igmp join-group** command, which allows the router to join the multicast group. This configuration of the **ip igmp static-group** command would cause the upstream routers to maintain the multicast routing table information for that group, which would ensure that all the paths to that multicast group are active.

If you configure the **ip igmp join-group** command for the same group address as the **ip igmp static-group** command, the **ip igmp join-group** command takes precedence, and the group behaves like a locally joined group.

Use the **ip igmp static-group** command with the **ssm-map** keyword to configure static traffic forwarding with SSM mapping on the last hop router. Static traffic forwarding can be used in conjunction with SSM mapping to statically forward SSM traffic for certain groups. When static traffic forwarding with SSM mapping is configured, the last hop router uses Domain Name System (DNS)-based SSM mapping to determine the sources associated with a group. The resulting (S, G) channels are then statically forwarded.

Use the **ip igmp static-group class-map** command with the **class-map** keyword and *class-map-name* argument to attach an IGMP static group class map to an interface. Once attached, all groups entries that are defined in the class map become static members on the interface and are added to the IGMP cache and to the mroute table.

Examples

The following example shows how to configure group address 239.100.100.101 on Ethernet interface 0:

```
interface ethernet 0
 ip igmp static-group 239.100.100.101
```

The following example shows how to configure group address 239.1.2.1 to use SSM mapping for statically forwarded groups on Ethernet interface 0:

```
interface ethernet 0
 ip igmp static-group 239.1.2.1 source ssm-map
```

The following example shows how to attach an IGMP static group range class map named static1 to GigabitEthernet interface 1/1:

```
interface GigabitEthernet1/1
 ip igmp static-group class-map static1
```

Related Commands

Command	Description
class-map type multicast-flows	Enters multicast-flows class-map configuration mode to create or modify IGMP static group class maps.
ip igmp join-group	Causes the router to join a multicast group.
ip igmp ssm-map enable	Enables SSM mapping for groups in a configured SSM range.
ip igmp ssm-map query dns	Configures DNS-based SSM mapping.
ip igmp ssm-map static	Enables static SSM mapping.
ip pim ssm	Defines the SSM range of IP multicast addresses.

show ip igmp static-group class-map

To display the contents of Internet Group Management Protocol (IGMP) static group class map configurations and the interfaces using class maps, use the **show ip igmp static-group class-map** command in user EXEC or privileged EXEC mode.

show ip igmp static-group class-map [**interface** *[type number]*]

Syntax Description	interface	(Optional) Filters the output to display only the interfaces using class maps.
	type number	(Optional) Interface type and number entered to filter the output to display only the class map attached to a particular interface.

Command Modes	User EXEC
	Privileged EXEC

Command History	Release	Modification
	12.2(18)SXF5	This command was introduced.

Usage Guidelines	Use this command to display the contents of IGMP static group class map configurations and the interfaces using class maps.
	Use this command with the optional interface keyword to filter the output to display only the interfaces using class maps.
	Use this command with the optional interface keyword and <i>type number</i> arguments to filter the output to display only the class map attached to a particular interface.

Examples	The following is sample output from the show ip igmp static-group class-map command. The output is self-explanatory:
	Router# show ip igmp static-group class-map

```

Class-map static1
  Group address range 228.8.8.7 to 228.8.8.9
  Group address 232.8.8.7, source address 10.1.1.10
  Interfaces using the classmap:
    Loopback0

Class-map static
  Group address range 232.7.7.7 to 232.7.7.9, source address 10.1.1.10
  Group address 227.7.7.7
  Group address range 227.7.7.7 to 227.7.7.9
  Group address 232.7.7.7, source address 10.1.1.10
  Interfaces using the classmap:
    Ethernet3/1

```

The following is sample output from the **show ip igmp static-group** command with the **interface** keyword. The output is self-explanatory.

```
Router# show ip igmp static-group class-map interface
```

```
Loopback0
  Class-map attached: static1
```

```
Ethernet3/1
  Class-map attached: static
```

The following is sample output from the **show ip igmp static-group** command with the **interface** keyword and *type number* arguments. The output is self-explanatory.

```
Router# show ip igmp static-group class-map interface Ethernet 3/1
```

```
Ethernet3/1
  Class-map attached: static
```

Related Commands

Command	Description
class-map type multicast-flows	Enters multicast-flows class-map configuration mode to create or modify IGMP static group class maps.
group (multicast-flows)	Defines the group entries to be associated with a IGMP static group class map.
ip igmp static-group	Configures static group membership entries on an interface.

Feature Information for IGMP Static Group Range Support

Table 1 lists the release history for this feature.

Not all commands may be available in your Cisco IOS software release. For release information about a specific command, see the command reference documentation.

Use Cisco Feature Navigator to find information about platform support and software image support. Cisco Feature Navigator enables you to determine which Cisco IOS and Catalyst OS software images support a specific software release, feature set, or platform. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.



Note

Table 1 lists only the Cisco IOS software release that introduced support for a given feature in a given Cisco IOS software release train. Unless noted otherwise, subsequent releases of that Cisco IOS software release train also support that feature.

Table 1 Feature Information for IGMP Static Group Range Support

Feature Name	Releases	Feature Information
IGMP Static Group Range Support	12.2(18)SXF5	The IGMP Static Group Range Support feature introduces the capability to configure group ranges in class maps and attach class maps to the ip igmp static-group command. This feature is an enhancement that simplifies the administration of networks with devices that require many interfaces to be configured with many ip igmp static-group commands. In 12.2(18)SXF5, this feature was introduced on the Catalyst 6500. The following commands were introduced or modified by this feature: class-map type multicast-flows, group (multicast-flows), ip igmp static-group, show ip igmp static group class-map.

CCVP, the Cisco logo, and Welcome to the Human Network are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn is a service mark of Cisco Systems, Inc.; and Access Registrar, Aironet, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, iQuick Study, LightStream, Linksys, MeetingPlace, MGX, Networkers, Networking Academy, Network Registrar, PIX, ProConnect, ScriptShare, SMARTnet, StackWise, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0711R)

Any Internet Protocol (IP) addresses used in this document are not intended to be actual addresses. Any examples, command display output, and figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses in illustrative content is unintentional and coincidental.

© 2006 Cisco Systems, Inc. All rights reserved.

