



IGMPv3 Host Stack

The IGMPv3 Host Stack feature enables routers and switches to function as multicast network endpoints or hosts. The feature adds INCLUDE mode capability to the Internet Group Management Protocol (IGMP) version 3 host stack for Source Specific Multicast (SSM) groups.

Feature History for the IGMPv3 Host Stack Feature

Release	Modification
12.3(14)T	This feature was introduced.

Finding Support Information for Platforms and Cisco IOS Software Images

Use Cisco Feature Navigator to find information about platform support and Cisco IOS software image support. Access Cisco Feature Navigator at <http://www.cisco.com/go/fn>. You must have an account on Cisco.com. If you do not have an account or have forgotten your username or password, click **Cancel** at the login dialog box and follow the instructions that appear.

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Restrictions for IGMPv3 Host Stack

- IGMP version 3 must be configured on the interface.



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- The **ip igmp join-group** command will be accepted but IGMPv3 reports will not be sent if IGMP version 3 is not configured on the interface.

Information About IGMPv3 Host Stack

To configure the IGMPv3 Host Stack feature, you should understand the following concepts:

- [IGMPv3 Host Stack Feature Design, page 2](#)
- [Benefits of IGMPv3 Host Stack, page 2](#)

IGMPv3 Host Stack Feature Design

An IGMPv3 report is sent when one of the following events occurs:

- When a source join group is configured and there is no existing state for this group and source.
- When no join group source is configured and there is an existing state for this group and source.
- When a query is received.

Benefits of IGMPv3 Host Stack

- Ensures that applications running on the system can also leverage SSM as the preferred strategic method for IP multicast whenever an application is broadcast in native.
- An IGMPv3 host stack aids in troubleshooting.

How to Configure IGMPv3 Host Stack

This section contains the following procedure:

- [Enabling the IGMPv3 Host Stack, page 2](#)

Enabling the IGMPv3 Host Stack

Perform this task to enable the IGMPv3 host stack.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **interface** *type number*
4. **ip igmp join-group** *group-address source source-address*

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	<code>configure terminal</code> Example: Router# configure terminal	Enters global configuration mode.
Step 3	<code>interface type number</code> Example: Router(config)# interface FastEthernet 1	Configures an interface type and enters interface configuration mode.
Step 4	<code>ip igmp join-group group-address source source-address</code> Example: Router(config-if)# ip igmp join-group 232.2.2.2 source 1.1.1.1	Configures the interface to receive multicast traffic sent to the group.

Verifying the IGMPv3 Host Stack

Perform this task to verify the IGMPv3 host stack configuration:

SUMMARY STEPS

1. `show ip igmp group detail`

DETAILED STEPS

	Command or Action	Purpose
Step 1	<code>show ip igmp group detail</code> Example: Router# show ip igmp group detail	Displays the multicast groups with receivers that are directly connected to the router and that were learned through IIGMP, with a detailed description of the sources known through IGMPv3.

Configuration Example for IGMPv3 Host Stack

This section provides the following configuration example:

- [Enabling the IGMPv3 Host Stack, page 2](#)

Enabling the IGMPv3 Host Stack: Example

The following example shows how to configure the interface to receive multicast traffic sent to the group 232.2.2.2 from the source 1.1.1.1:

```
interface FastEthernet 0
 ip igmp join-group 232.2.2.2 source 1.1.1.1
```

Additional References

The following sections provide references related to the IGMPv3 Host Stack feature.

Related Documents

Related Topic	Document Title
Multicast commands: complete command syntax, command mode, command history, defaults, usage guidelines, and examples	Cisco IOS IP Command Reference, Volume 3 of 4: Multicast, Release 12.3T
Multicast configuration tasks	“Configuring IP Multicast Routing” chapter of Part 3 of the Cisco IOS IP Configuration Guide, Release 12.3

Standards

Standards	Title
No new or modified standards are supported by this feature.	—

MIBs

MIBs	MIBs Link
No new or modified MIBs are supported 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

RFCs	Title
RFC 3376	<i>Internet Group Management Protocol, Version 3</i>

Technical Assistance

Description	Link
Technical Assistance Center (TAC) home page, containing 30,000 pages of searchable technical content, including links to products, technologies, solutions, technical tips, and tools. Registered Cisco.com users can log in from this page to access even more content.	http://www.cisco.com/public/support/tac/home.shtml

Command Reference

This section documents one modified command only.

- **ip igmp join-group**

ip igmp join-group

To have the router join a multicast group, use the **ip igmp join-group** command in interface configuration mode. To cancel membership in a multicast group, use the **no** form of this command.

ip igmp join-group *group-address* [**source** *source-address*]

no ip igmp join-group *group-address* [**source** *source-address*]

Syntax Description

<i>group-address</i>	Address of the multicast group. This is a multicast IP address in four-part dotted-decimal notation.
source <i>source-address</i>	(Optional) IP source address.

Defaults

No multicast group memberships are predefined.

Command Modes

Interface configuration

Command History

Release	Modification
10.0	This command was introduced.
12.3(14)T	The source keyword and <i>source-address</i> argument were added.

Usage Guidelines

IP packets that are addressed to the group address are passed to the IP client process in the Cisco IOS software.

If all the multicast-capable routers and access servers that you administer are members of a multicast group, pinging that group causes all routers to respond, which can be a useful administrative and debugging tool.

Another reason to have a router join a multicast group is when other hosts on the network have an Interior Gateway Routing Protocol (IGRP) configuration that prevents them from correctly answering Internet Group Management Protocol (IGMP) queries. Having the router join the multicast group causes upstream routers to maintain multicast routing table information for that group and keep the paths for that group active.

Use the **ip igmp join-group source** command to generate IGMPv3 reports. A report will be sent when one of the following events occurs:

- When a source join group is configured and there is no existing state for this group and source.
- When no join group source is configured and there is an existing state for this group and source.
- When a query is received.

Examples

In the following example, the router joins multicast group 225.2.2.2:

```
ip igmp join-group 225.2.2.2
```

In the following example, the router joins multicast group 225.2.2.2 and includes the IP source address 1.1.1.1:

```
ip igmp join-group 225.2.2.2 source 1.1.1.1
```

Related Commands

Command	Description
ip igmp access-group	Controls the multicast groups that hosts on the subnet serviced by an interface can join.
ping	Diagnoses basic network connectivity on Apollo, AppleTalk, CLNS, DECnet, IP, Novell IPX, or source-route bridging (SRB) networks.

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