

# Cisco Multicast Support Matrix

This document is intended as a quick reference for IP Multicast features supported by both Cisco IOS and Cisco Switching products.

Part 1 is a table of IPmc features supported per Catalyst switch family.

Part 2 is a list of Cisco IOS IPmc features and their supported release.

Part 3 is a list of Catalyst documentation links.

Part 4 is a glossary.

## Part 1—Table of Switch features related to IP Multicast

	IGMP-Snooping	CGMP	RGMP****	CMF**	GMRP***
C85xx	No	No	No	Yes	No
C6K	Yes	No	Yes	No	Yes
C5K	Yes*	Yes	Yes	No	Yes
C4K	No	Yes	No	No	Yes
C29xxG	No	Yes	No	No	Yes
C29xx-L3	No	No	No	Yes	No
C29/35 XL	No	Yes	No	No	No
1900/2800	No	Yes	No	No	No

\* Requires NFFC II

\*\* CMF is IOS's Router code performing IGMP snooping function.

\*\*\* GMRP requires Host NIC support.

\*\*\*\* RGMP inter-operates with RGMP capable routers

## Part 2—Cisco IOS Multicast Features

Cisco IOS has supported IP multicast since version 10.2 released in 1995. Cisco IOS 12.0 is the recommended version for all IP multicast implementations. This is because it supports PIM-SM v2. This is the recommended version of PIM if interoperability with other vendors is required.

There are minor incompatibilities when versions 1 and 2 of PIM-SM inter-operate Cisco recommend to use PIM version 2.

Please visit the IP Multicast Groups external home page. This page is supported directly by the engineers in the Multicast group, so you can always be assured of the latest information. The URL is <ftp://ftpeng.cisco.com/ipmulticast/index.html>

**Bi-Dir 12.1(2)T**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t2/dtbipim.htm>

**MBGP 12.0(7)T**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120t/120t7/mbgp.htm>

**MDS/MDFS**

Cisco IOS versions 11.1(25.2)CC, 12.0(3.7)S3, and 12.0(4.0.4)S

[http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/12cgcr/switch\\_c/xcprt6/xcmds.htm](http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/12cgcr/switch_c/xcprt6/xcmds.htm)

**MMLS 12.0(5)T or 5.3 of C6K or 5.1 of C5K**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120t/120t5/ipmctmls.htm>

[http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/sw\\_5\\_3/msfc/mcastmls.htm](http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/sw_5_3/msfc/mcastmls.htm)

[http://www.cisco.com/univercd/cc/td/doc/product/lan/cat5000/rel\\_5\\_1/config/mcastmls.htm](http://www.cisco.com/univercd/cc/td/doc/product/lan/cat5000/rel_5_1/config/mcastmls.htm)

**MRM 12.0(5)T and 12.0(5)S**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120limit/120s/120s5/mrm.htm>

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120t/120t5/mrm.htm>

**MSDP 12.0(7)T**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120t/120t7/msdp.htm>

**MvoIP 12.1(3)T**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t3/dtvmult3.htm>

**PGM Features****PGM Router Assist 12.0(5)T**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120t/120t5/pgmscale.htm>

**PGM Host 12.1(1)T**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t1/dtpgmhst.htm>

**SSM 12.1(3)T**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121t/121t3/dtssm.htm>

**UDLR 12.0(3)T.**

<http://www.cisco.com/univercd/cc/td/doc/product/software/ios120/120newft/120t/120t3/igmpudlr.htm>

**CBOS commands**

The Cisco Broadband Operating System is modelled after Cisco's Internetworking Operating System (IOS) and features a similar command syntax and format.

Multicast proxy support (IGMP Proxy) Release 2.1.0

This ability is also available in regular routers. As "ip igmp helper-address"

[http://www.cisco.com/univercd/cc/td/doc/product/dsl\\_prod/c600s/cbos/cbo210rn.htm#xtocid54014](http://www.cisco.com/univercd/cc/td/doc/product/dsl_prod/c600s/cbos/cbo210rn.htm#xtocid54014)

<http://www.cisco.com/univercd/cc/td/doc/pcat/675.htm#BABIGDDF>

<http://www.cisco.com/univercd/cc/td/doc/pcat/673.htm#BABJFAEJ>

**Part 3—Multicast Documentation by Switch:****1200: Not Mentioned**

<http://www.cisco.com/univercd/cc/td/doc/product/lan/catalyst/cat12icg/78656.htm#xtocid1019923>

**1420/1220: Manual configuration**

[http://www.cisco.com/univercd/cc/td/doc/product/lan/14201220/14\\_1220u/csoutb.htm#xtocid1901516](http://www.cisco.com/univercd/cc/td/doc/product/lan/14201220/14_1220u/csoutb.htm#xtocid1901516)

**1548: Not mentioned**

[http://www.cisco.com/univercd/cc/td/doc/product/lan/ms1548m/cli/1548\\_cli.htm](http://www.cisco.com/univercd/cc/td/doc/product/lan/ms1548m/cli/1548_cli.htm)

**1900/2820: CGMP**

<http://www.cisco.com/univercd/cc/td/doc/product/lan/28201900/1928v9x/19icg9x/19icweb.htm#xtocid1273983>

<http://www.cisco.com/univercd/cc/td/doc/product/lan/28201900/1928v9x/28icg9x/28icoutb.htm#xtocid1786322>

**2100: Manual configuration**

[http://www.cisco.com/univercd/cc/td/doc/product/lan/cat2100/c2100ug/csfo\\_bnd.htm#xtocid467915](http://www.cisco.com/univercd/cc/td/doc/product/lan/cat2100/c2100ug/csfo_bnd.htm#xtocid467915)

**2800: Manual configuration**

<http://www.cisco.com/univercd/cc/td/doc/product/lan/cat2800/fs28/fs28outb.htm#xtocid2576515>

**2900XL/3500XL: CGMP**

[http://www.cisco.com/univercd/cc/td/doc/product/lan/c2900xl/29\\_35xp/scg/kiconfig.htm#xtocid109398](http://www.cisco.com/univercd/cc/td/doc/product/lan/c2900xl/29_35xp/scg/kiconfig.htm#xtocid109398)

**2948G-L3: CGMP server and Constrained Multicast Flooding (CMF)**

[http://www.cisco.com/univercd/cc/td/doc/product/l3sw/2948g-l3/rel\\_12\\_0/config/net\\_prot.htm#xtocid224329](http://www.cisco.com/univercd/cc/td/doc/product/l3sw/2948g-l3/rel_12_0/config/net_prot.htm#xtocid224329)

Note: Only 128 Multicast groups

**5000,4000,2926G,2948G and 2980G: CGMP, IGMP-Snooping, RGMP, GMRP**

[http://www.cisco.com/univercd/cc/td/doc/product/lan/cat5000/rel\\_5\\_4/config/multi.htm](http://www.cisco.com/univercd/cc/td/doc/product/lan/cat5000/rel_5_4/config/multi.htm)

Note: CGMP SW version 2.2, IGMP-snooping requires NFFC, GMRP requires SW 5.1

**6000: IGMP-Snooping, RGMP, GMRP**

[http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/sw\\_5\\_4/config/multi.htm](http://www.cisco.com/univercd/cc/td/doc/product/lan/cat6000/sw_5_4/config/multi.htm)

**8500: CMF**

[http://www.cisco.com/univercd/cc/td/doc/product/l3sw/8540/rel\\_12\\_0/w5\\_6e/softcnfg/4cfg8500.htm#xtocid612722](http://www.cisco.com/univercd/cc/td/doc/product/l3sw/8540/rel_12_0/w5_6e/softcnfg/4cfg8500.htm#xtocid612722)

## Part 4—Glossary

### Bi-Dir PIM:

Bi-directional PIM creates a single forwarding tree that allows data to flow both up and down the tree. This is useful for reducing state in routers.

### CGMP:

Cisco Group Management Protocol. This is a Cisco proprietary protocol. It was designed to enable a Router to inform a Switch that a port associated with a particular Unicast MAC address requires a Multicast MAC address to be added. CGMP enables switches without the hardware to support IGMP-snooping to constrain Multicast data.

### CMF:

Constrained Multicast Flooding is a CISCO IOS method to perform IGMP-snooping This was created for Cisco IOS L3 Switches.

### GMRP:

GARP Multicast Registration Protocol. This is a extension to the GARP protocol and requires that the Host NIC card inform the GMRP enabled Switch which group it requires data from. GARP is a layer 2 protocol and so only implemented on Switches and Host NIC cards.

### IGMP:

Internet Group management Protocol as defined in RFC 1112 and 2236. At present there are two version of IGMP. IGMP version 2 incorporates fast leave capability.

#### IGMP-snooping:

This is not a standard, it is a methodology for switches to intercept IGMP host reports. If this is implemented in hardware it has no impact on performance. However if this is implemented in Software then performance of the switch can be expected to decrease.

#### MBGP:

Multi-protocol BGP This enables BGP to carry routing information for multiple Network Layer protocols EG IPv6, IPX, etc. It can also carry routing information for Multicast Data. This Allows the use non-congruent multicast and unicast topologies.

#### MDS/MDFS:

Multicast Distributed Fast Switching. This provides support for distributed switching of multicast packets on VIPs in Cisco-75xx and on line cards in the Cisco-12xx.

#### Multicast proxy/IGMP Proxy:

This feature is also available in regular routers as “ip igmp helper-address.”

#### MMLS:

Multicast Multi Layer Switching. This is hardware based ASIC, Layer 3 switching of IP multicast traffic.

#### MRM:

The Multicast Reach-ability Monitor. This feature provides a Traffic Generator, Receiver and Management function. MRM utilizes RTCP data to verify IP Multicast data delivery throughout the network.

#### MSDP:

Multicast Source Discovery Protocol. This is a protocol to enable RP's to inform each other of active sources (SA) they are aware of.

#### MVoip:

Cisco MVoIP (Multicast Voice over IP), is used as a replacement for the traditional 'Hoot and Holler' networks used in brokerage firms. Hoot and Holler systems provide continuous voice conference functionality between remote sites.

#### PGM:

Pragmatic General Multicast. This is a reliable multicast transport protocol. Routers with the router assist function enabled become involved in the efficient re-delivery of PGM data. The router only keeps track of which interfaces need to receive re-transmitted data, they do NOT cache data.

#### RGMP:

RouterPort Group Management Protocol This Protocol is designed to prevent unwanted IP Multicast traffic from being sent to Multicast routers who have no requirement for it. It operates with PIM-SM only and requires both the Switch and the router to Support RGMP.

#### SSM:

Source Specific Multicast allows a hosts to explicitly define which sources it is interested in when joining a multicast group. IGMP v3, URL Rendezvous Directory (URD) and IGMP v3lite can all be used with SSM.

#### UDLR:

Unidirectional link routing. This provides a way to forward multicast packets over a physical unidirectional interface (such as a satellite link of high bandwidth) to stub networks that have a back channel.

##### UDLR-Tunnels:

Applies to unicast and multicast has limited scalability.

##### IGMP-UDLR:

Applies to multicast only, the preferred method.



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