



# IP Multicast Features Roadmap

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This feature roadmap lists the Cisco IOS features documented in the *Cisco IOS IP Multicast Configuration Guide* and maps them to the documents in which they appear. The roadmap is organized so that you can select your release train and see the features in that release. Find the feature name you are searching for and click on the URL in the “Where Documented” column to access the document containing that feature.

## Feature and Release Support

**Table 1** lists IP multicast feature support for the following Cisco IOS software release trains:

- [Cisco IOS Releases 12.0S](#)
- [Cisco IOS Releases 12.2S](#)
- [Cisco IOS Releases 12.2SB](#)
- [Cisco IOS Releases 12.2SR](#)
- [Cisco IOS Releases 12.2SX](#)
- [Cisco IOS Releases 12.2T, 12.3, 12.3T, 12.4, and 12.4T](#)

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

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**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.

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**Table 1** lists the most recent release of each software train first and the features in alphabetical order within the release.



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**Table 1**      **Supported IP Multicast Features**

Release	Feature Name	Feature Description	Where Documented
<b>Cisco IOS Releases 12.0S</b>			
12.0(18)S	IGMPv3—Explicit Tracking Host, Group, and Channel	This IGMPv3—Explicit Tracking Host, Group, and Channel feature enables a multicast router to explicitly track the membership of all multicast hosts in a particular multiaccess network. This enhancement to the Cisco IOS implementation of Internet Group Management Protocol Version 3 (IGMPv3) enables the router to track each individual host that is joined to a particular group or channel.	<a href="#">Customizing IGMP</a>
12.0(19)S	Extended ACL Support for IGMP to Support SSM in IPv4	The Extended ACL Support for IGMP to Support SSM in IPv4 feature enables IGMPv3 to accommodate extended access lists. IGMPv3 support of extended access lists allows you to leverage an important advantage of Source Specific Multicast (SSM) in IPv4, that of filtering IGMPv3 reports based on source address, group address, or both.	<a href="#">Customizing IGMP</a>
12.0(22)S	Multicast Subsecond Convergence	The Multicast Subsecond Convergence feature comprises a comprehensive set of features and protocol enhancements that provide for improved scalability and convergence in multicast-based services. This feature set provides for the ability to scale to larger services levels and to recover multicast forwarding after service failure in subsecond time frames.	<a href="#">Multicast Subsecond Convergence</a>
12.0(23)S	Multicast-VPN—IP Multicast Support of MPLS VPNs	The Multicast VPN feature provides the ability to support multicast over a Layer 3 Virtual Private Network (VPN). As enterprises extend the reach of their multicast applications, service providers can accommodate these enterprises over their Multiprotocol Label Switching (MPLS) core network. IP multicast is used to stream video, voice, and data to an MPLS VPN network core.	<a href="#">Configuring Multicast VPN</a>
12.0(27)S	MSDP Compliance with IETF RFC 3618	The MSDP Compliance with IETF RFC 3618 feature enables you to configure Multicast Source Discover Protocol (MSDP) to comply with the peer-RPF forwarding rules defined in the IETF RFC 3618 specifications.	<a href="#">Using MSDP to Interconnect Multiple PIM-SM Domains</a>

**Table 1** *Supported IP Multicast Features (continued)*

Release	Feature Name	Feature Description	Where Documented
12.0(28)S	PIM Dense Mode Fallback Prevention in a Network Following RP Information Loss	The PIM Dense Mode Fallback Prevention in a Network Following RP Information Loss feature enables you to prevent PIM-DM fallback when all rendezvous points (RPs) fail. Preventing the use of dense mode is very important to multicast networks whose reliability is critical. This feature provides a mechanism to keep the multicast groups in sparse mode. This feature also allows you to block multicast traffic for groups not specifically configured.	<a href="#">IP Multicast Technology Overview</a> <a href="#">Configuring Basic IP Multicast</a>
12.0(29)S	BGP Multicast Inter-AS VPN	The BGP Multicast Inter-AS VPN feature introduces the IPv4 Multicast Distribution Tree (MDT) Subaddress Family Identifier (SAFI) in BGP. The MDT SAFI is a transitive multicast capable connector attribute that is defined as an IPv4 address family in BGP. The MDT SAFI is designed to support inter-AS VPN peering sessions.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
12.0(29)S	Multicast VPN MIB	The Multicast VPN MIB feature introduces the capability for Simple Network Management Protocol (SNMP) monitoring of a Multicast VPN (MVPN) using the MVPN MIB (CISCO-MVPN-MIB).	<a href="#">Multicast VPN MIB</a>
12.0(30)S	Multicast VPN Inter-AS Support	The Multicast VPN Inter-AS Support feature enables Multicast Distribution Trees (MDTs) used for MVPNs to span multiple autonomous systems. Benefits include increased multicast coverage to customers that require multicast to span multiple service providers in a Multiprotocol Label Switching (MPLS) Layer 3 Virtual Private Network (VPN) service with the flexibility to support all options described in RFC 4364. Additionally, the Multicast VPN Inter-AS Support feature can be used to consolidate an existing MVPN service with another MVPN service, such as the case with a company merger or acquisition.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
12.0(30)S	PIM RPF Vector	The PIM RPF Vector feature enables core routers to perform RPF checks on an IP address of the exit router instead of on the source router. The address on the exit router is the RPF Vector and it is inserted in PIM join messages.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
<b>Cisco IOS Releases 12.2S</b>			
12.2(14)S	IGMP State Limit	The IGMP State Limit feature introduces the capability to limit the number of mroute states resulting from IGMP membership states per interface, per subinterface, or globally.	<a href="#">Configuring Multicast Admission Control</a>

**Table 1** *Supported IP Multicast Features (continued)*

<b>Release</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Where Documented</b>
12.2(14)S	IGMPv3—Explicit Tracking of Hosts, Groups, and Channels	This IGMPv3—Explicit Tracking Host, Group, and Channel feature enables a multicast router to explicitly track the membership of all multicast hosts in a particular multiaccess network. This enhancement to the Cisco IOS implementation of IGMPv3 enables the router to track each individual host that is joined to a particular group or channel.	<a href="#">Customizing IGMP</a>
12.2(14)S	Multicast Subsecond Convergence	The Multicast Subsecond Convergence feature comprises a comprehensive set of features and protocol enhancements that provide for improved scalability and convergence in multicast-based services. This feature set provides for the ability to scale to larger services levels and to recover multicast forwarding after service failure in subsecond time frames.	<a href="#">Multicast Subsecond Convergence</a>
12.2(14)S	Multicast-VPN—IP Multicast Support of MPLS VPNs	The Multicast VPN feature provides the ability to support multicast over a Layer 3 Virtual Private Network (VPN). As enterprises extend the reach of their multicast applications, service providers can accommodate these enterprises over their Multiprotocol Label Switching (MPLS) core network. IP multicast is used to stream video, voice, and data to an MPLS VPN network core.	<a href="#">Configuring Multicast VPN</a>
12.2(18)S	Source Specific Multicast (SSM) Mapping	The Source Specific Multicast (SSM) Mapping feature extends the Cisco IOS suite of SSM transition tools, which also includes URL Rendezvous Directory (URD) and Internet Group Management Protocol Version 3 Lite (IGMP v3lite). SSM mapping supports SSM transition in cases where neither URD nor IGMP v3lite is available, or when supporting SSM on the end system is impossible or unwanted due to administrative or technical reasons. SSM mapping enables you to leverage SSM for video delivery to legacy set-top boxes (STBs) that do not support IGMPv3 or for applications that do not take advantage of the IGMPv3 host stack.	<a href="#">Source Specific Multicast (SSM) Mapping</a>
12.2(25)S	Extended ACL Support for IGMP to Support SSM in IPv4	The Extended ACL Support for IGMP to Support SSM in IPv4 feature enables IGMPv3 to accommodate extended access lists. IGMPv3 support of extended access lists allows you to leverage an important advantage of SSM in IPv4, that of filtering IGMPv3 reports based on source address, group address, or both.	<a href="#">Customizing IGMP</a>

**Table 1** *Supported IP Multicast Features (continued)*

Release	Feature Name	Feature Description	Where Documented
12.2(25)S	MSDP Compliance with IETF RFC 3618	The MSDP Compliance with IETF RFC 3618 feature enables you to configure MSDP to comply with the peer-RPF forwarding rules defined in the IETF RFC 3618 specifications.	<a href="#">Using MSDP to Interconnect Multiple PIM-SM Domains</a>
<b>Cisco IOS Releases 12.2SB</b>			
12.2(27)SBC	Extended ACL Support for IGMP to Support SSM in IPv4	The Extended ACL Support for IGMP to Support SSM in IPv4 feature enables IGMPv3 to accommodate extended access lists. IGMPv3 support of extended access lists allows you to leverage an important advantage of SSM in IPv4, that of filtering IGMPv3 reports based on source address, group address, or both.	<a href="#">Customizing IGMP</a>
12.2(27)SBC	MSDP Compliance with IETF RFC 3618	The MSDP Compliance with IETF RFC 3618 feature enables you to configure MSDP to comply with the peer-RPF forwarding rules defined in the IETF RFC 3618 specifications.	<a href="#">Using MSDP to Interconnect Multiple PIM-SM Domains</a>
12.2(27)SBC	Source Specific Multicast (SSM) Mapping	The Source Specific Multicast (SSM) Mapping feature extends the Cisco IOS suite of SSM transition tools, which also includes URD and IGMP v3lite. SSM mapping supports SSM transition in cases where neither URD nor IGMP v3lite is available, or when supporting SSM on the end system is impossible or unwanted due to administrative or technical reasons. SSM mapping enables you to leverage SSM for video delivery to legacy STBs that do not support IGMPv3 or for applications that do not take advantage of the IGMPv3 host stack.	<a href="#">Source Specific Multicast (SSM) Mapping</a>
12.2(31)SB2	BGP Multicast Inter-AS VPN	The BGP Multicast Inter-AS VPN feature introduces the IPv4 MDT SAFI in BGP. The MDT SAFI is a transitive multicast capable connector attribute that is defined as an IPv4 address family in BGP. The MDT SAFI is designed to support inter-AS VPN peering sessions.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
12.2(31)SB2	Multicast VPN Extranet Support	The Multicast VPN Extranet Support feature enables service providers to distribute IP multicast content originated from one enterprise site to other enterprise sites. This feature enables service providers to offer the next generation of flexible extranet services, helping to enable business partnerships between different enterprise VPN customers.	<a href="#">Configuring Multicast VPN Extranet Support</a>

**Table 1** Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
12.2(31)SB2	Multicast VPN Extranet VRF Select	The Multicast VPN Extranet VRF Select feature provides the capability for RPF lookups to be performed to the same source address in different VRFs using the group address as the VRF selector. This feature enhances extranet MVPNs by enabling service providers to distribute content streams coming in from different MVPNs and redistributing them from there.	<a href="#">Configuring Multicast VPN Extranet Support</a>
12.2(31)SB2	Multicast VPN Inter-AS Support	The Multicast VPN Inter-AS support feature enables MDTs used for MVPNs to span multiple autonomous systems. Benefits include increased multicast coverage to customers that require multicast to span multiple service providers in an MPLS Layer 3 VPN service with the flexibility to support all options described in RFC 4364. Additionally, the Multicast VPN Inter-AS Support feature may be used to consolidate an existing MVPN service with another MVPN service, such as the case with a company merger or acquisition.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
12.2(31)SB2	PIM RPF Vector	The PIM RPF Vector feature enables core routers to perform RPF checks on an IP address of the exit router instead of on the source router. The address on the exit router is the RPF Vector and it is inserted in PIM join messages.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
<b>Cisco IOS Releases 12.2SR</b>			
12.2(33)SRA	BGP Multicast Inter-AS VPN	The BGP Multicast Inter-AS VPN feature introduces the IPv4 MDT SAFI in BGP. The MDT SAFI is a transitive multicast capable connector attribute that is defined as an IPv4 address family in BGP. The MDT SAFI is designed to support inter-AS VPN peering sessions.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
12.2(33)SRA	Extended ACL Support for IGMP to Support SSM in IPv4	The Extended ACL Support for IGMP to Support SSM in IPv4 feature enables IGMPv3 to accommodate extended access lists. IGMPv3 support of extended access lists allows you to leverage an important advantage of SSM in IPv4, that of filtering IGMPv3 reports based on source address, group address, or both.	<a href="#">Customizing IGMP</a>
12.2(33)SRA	MSDP Compliance with IETF RFC 3618	The MSDP Compliance with IETF RFC 3618 feature enables you to configure MSDP to comply with the peer-RPF forwarding rules defined in the IETF RFC 3618 specifications.	<a href="#">Using MSDP to Interconnect Multiple PIM-SM Domains</a>

**Table 1** *Supported IP Multicast Features (continued)*

<b>Release</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Where Documented</b>
12.2(33)SRA	Multicast VPN Inter-AS Support	The Multicast VPN Inter-AS support feature enables MDTs used for MVPNs to span multiple autonomous systems. Benefits include increased multicast coverage to customers that require multicast to span multiple service providers in an MPLS Layer 3 VPN service with the flexibility to support all options described in RFC 4364. Additionally, the Multicast VPN Inter-AS Support feature may be used to consolidate an existing MVPN service with another MVPN service, such as the case with a company merger or acquisition.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
12.2(33)SRA	Multicast VPN MIB	The Multicast VPN MIB feature introduces the capability for SNMP monitoring of an MVPN using the MVPN MIB (CISCO-MVPN-MIB).	<a href="#">Multicast VPN MIB</a>
12.2(33)SRA	PIM Dense Mode Fallback Prevention in a Network Following RP Information Loss	The PIM Dense Mode Fallback Prevention in a Network Following RP Information Loss feature enables you to prevent PIM-DM fallback when all RPs fail. Preventing the use of dense mode is very important to multicast networks whose reliability is critical. This feature provides a mechanism to keep the multicast groups in sparse mode. This feature also allows you to block multicast traffic for groups not specifically configured.	<a href="#">IP Multicast Technology Overview</a> <a href="#">Configuring Basic IP Multicast</a>
12.2(33)SRA	PIM RPF Vector	The PIM RPF Vector feature enables core routers to perform RPF checks on an IP address of the exit router instead of on the source router. The address on the exit router is the RPF Vector and it is inserted in PIM join messages.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
12.2(33)SRB	Bandwidth-Based CAC for IP Multicast	The Bandwidth-Based CAC for IP Multicast feature enhances the Per Interface Mroute State Limit feature by implementing a way to count per interface mroute state limiters using cost multipliers. This feature can be used to provide bandwidth-based Call Admission Control (CAC) on a per interface basis in network environments where the multicast flows utilize different amounts of bandwidth.	<a href="#">Configuring Multicast Admission Control</a>

**Table 1** *Supported IP Multicast Features (continued)*

Release	Feature Name	Feature Description	Where Documented
12.2(33)SRB	IP Multicast Load Splitting—Equal Cost Multipath (ECMP) Using S, G and Next Hop	The IP Multicast Load Splitting—Equal Cost Multipath (ECMP) Using S, G and Next Hop feature introduces more flexible support for ECMP multicast load splitting by adding support for load splitting based on source and group address and on source, group, and next-hop address. This feature enables multicast traffic from devices that send many streams to groups or that broadcast many channels, such as IPTV servers or MPEG video servers, to be more effectively load split across equal-cost paths. Prior to the introduction of this feature, the Cisco IOS software only supported ECMP multicast load splitting based on source address, which restricted multicast traffic sent by a single source to multiple groups from being load split across equal-cost paths.	<a href="#">Load Splitting IP Multicast Traffic over ECMP</a>
12.2(33)SRB	Per Interface Mroute State Limit	The Per Interface Mroute State Limit feature provides the capability to limit the number of multicast route (mroute) states on an interface for different access control list (ACL)-classified sets of multicast traffic. This feature can be used to prevent denial-of-service (DoS) attacks, or to provide a multicast Call Admission Control (CAC) mechanism in network environments where all the multicast flows roughly utilize the same amount of bandwidth.	<a href="#">Configuring Multicast Admission Control</a>
12.2(33)SRC	Multicast VPN Extranet Support	The Multicast VPN Extranet Support feature enables service providers to distribute IP multicast content originated from one enterprise site to other enterprise sites. This feature enables service providers to offer the next generation of flexible extranet services, helping to enable business partnerships between different enterprise VPN customers.	<a href="#">Configuring Multicast VPN Extranet Support</a>

Cisco IOS Releases 12.2SX

**Table 1** *Supported IP Multicast Features (continued)*

Release	Feature Name	Feature Description	Where Documented
12.2(18)SXD 3	Source Specific Multicast (SSM) Mapping	The Source Specific Multicast (SSM) Mapping feature extends the Cisco IOS suite of SSM transition tools, which also includes URD and IGMP v3lite. SSM mapping supports SSM transition in cases where neither URD nor IGMP v3lite is available, or when supporting SSM on the end system is impossible or unwanted due to administrative or technical reasons. SSM mapping enables you to leverage SSM for video delivery to legacy STBs that do not support IGMPv3 or for applications that do not take advantage of the IGMPv3 host stack.	<a href="#">Source Specific Multicast (SSM) Mapping</a>
12.2(18)SXF 5	IGMP Static Group Range Support	The IGMP Static Group Range Support feature introduces the capability to configure group ranges in class maps and attach class maps to the <b>ip igmp static-group</b> command. This feature is an enhancement that simplifies the administration of networks with devices that require many interfaces to be configured with many different <b>ip igmp static-group</b> command configurations.	<a href="#">IGMP Static Group Range Support</a>
12.2(33)SXH	BGP Multicast Inter-AS VPN	The BGP Multicast Inter-AS VPN feature introduces the IPv4 MDT SAFI in BGP. The MDT SAFI is a transitive multicast capable connector attribute that is defined as an IPv4 address family in BGP. The MDT SAFI is designed to support inter-AS VPN peering sessions.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
12.2(33)SXH	Extended ACL Support for IGMP to Support SSM in IPv4	The Extended ACL Support for IGMP to Support SSM in IPv4 feature enables IGMPv3 to accommodate extended access lists. IGMPv3 support of extended access lists allows you to leverage an important advantage of SSM in IPv4, that of filtering IGMPv3 reports based on source address, group address, or both.	<a href="#">Customizing IGMP</a>
12.2(33)SXH	Hardware Acceleration for Multicast VPN Extranet Support	The Hardware Acceleration for Multicast VPN Extranet Support introduces the linking of forwarding entries and the replication of packets in hardware for extranet MVPN services on Catalyst 6500 series switches.	<a href="#">Configuring Multicast VPN Extranet Support</a>
12.2(33)SXH	MSDP Compliance with IETF RFC 3618	The MSDP Compliance with IETF RFC 3618 feature enables you to configure MSDP to comply with the peer-RPF forwarding rules defined in the IETF RFC 3618 specifications.	<a href="#">Using MSDP to Interconnect Multiple PIM-SM Domains</a>

**Table 1** Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
12.2(33)SXH	MSDP MD5 Password Authentication	The MSDP MD5 password authentication feature is an enhancement to support Message Digest 5 (MD5) signature protection on a TCP connection between two MSDP peers. This feature provides added security by protecting MSDP against the threat of spoofed TCP segments being introduced into the TCP connection stream.	<a href="#">Using MSDP to Interconnect Multiple PIM-SM Domains</a>
12.2(33)SXH	Multicast VPN Extranet Support	The Multicast VPN Extranet Support feature enables service providers to distribute IP multicast content originated from one enterprise site to other enterprise sites. This feature enables service providers to offer the next generation of flexible extranet services, helping to enable business partnerships between different enterprise VPN customers.	<a href="#">Configuring Multicast VPN Extranet Support</a>
12.2(33)SXH	Multicast VPN Inter-AS Support	The Multicast VPN Inter-AS support feature enables MDTs used for MVPNs to span multiple autonomous systems. Benefits include increased multicast coverage to customers that require multicast to span multiple service providers in an MPLS Layer 3 VPN service with the flexibility to support all options described in RFC 4364. Additionally, the Multicast VPN Inter-AS Support feature may be used to consolidate an existing MVPN service with another MVPN service, such as the case with a company merger or acquisition.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>
12.2(33)SXH	Multicast VPN MIB	The Multicast VPN MIB feature introduces the capability for SNMP monitoring of an MVPN using the MVPN MIB (CISCO-MVPN-MIB).	<a href="#">Multicast VPN MIB</a>
12.2(33)SXH	PIM Dense Mode Fallback Prevention in a Network Following RP Information Loss	The PIM Dense Mode Fallback Prevention in a Network Following RP Information Loss feature enables you to prevent PIM-DM fallback when all RPs fail. Preventing the use of dense mode is very important to multicast networks whose reliability is critical. This feature provides a mechanism to keep the multicast groups in sparse mode. This feature also allows you to block multicast traffic for groups not specifically configured.	<a href="#">IP Multicast Technology Overview</a> <a href="#">Configuring Basic IP Multicast</a>
12.2(33)SXH	PIM RPF Vector	The PIM RPF Vector feature enables core routers to perform RPF checks on an IP address of the exit router instead of on the source router. The address on the exit router is the RPF Vector and it is inserted in PIM join messages.	<a href="#">Configuring Multicast VPN Inter-AS Support</a>

**Table 1** *Supported IP Multicast Features (continued)*

<b>Release</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Where Documented</b>
12.2(33)SXH	PIM Triggered Joins	The PIM Triggered Joins feature is a high availability (HA) multicast enhancement that improves the reconvergence of multicast routes (mroutes) after a supervisor engine switchover on a Catalyst 6500 series switch. In the event of a supervisor engine switchover, this feature utilizes the Generation ID (GenID) value as a mechanism to trigger adjacent Protocol Independent Multicast (PIM) neighbors on an interface to send PIM join messages for all (*, G) and (S, G) mroutes that use that interface as a reverse path forwarding (RPF) interface, immediately reestablishing those states on the newly active supervisor engine.	<a href="#">PIM Triggered Joins</a>
12.2(33)SXI	Bandwidth-Based CAC for IP Multicast	The Bandwidth-Based CAC for IP Multicast feature enhances the Per Interface Mroute State Limit feature by implementing a way to count per interface mroute state limiters using cost multipliers. This feature can be used to provide bandwidth-based CAC on a per interface basis in network environments where the multicast flows utilize different amounts of bandwidth.	<a href="#">Configuring Multicast Admission Control</a>
12.2(33)SXI	Per Interface Mroute State Limit	The Per Interface Mroute State Limit feature provides the capability to limit the number of mroute states on an interface for different ACL-classified sets of multicast traffic. This feature can be used to prevent DoS attacks, or to provide a multicast CAC mechanism in network environments where all the multicast flows roughly utilize the same amount of bandwidth.	<a href="#">Configuring Multicast Admission Control</a>
12.2(33)SXI	SSO—IPv4 Multicast HA Support for Group-to-RP Mapping	The SSO—IPv4 Multicast HA Support for Group-to-RP Mapping feature enhances multicast high availability (HA) functionality by providing support for the synchronization of dynamically learned group-to- rendezvous point (RP) mappings and bidirectional PIM (bidir-PIM) designated forwarder (DF) information on the standby Route Processor (RP). In addition, this feature also provides In Service Software Upgrade (ISSU) support for Protocol Independent Multicast (PIM).	<a href="#">SSO—IPv4 Multicast HA Support for Group-to-RP Mapping</a>

Cisco IOS Releases 12.2T, 12.3, 12.3T, 12.4, and 12.4T

**Table 1** *Supported IP Multicast Features (continued)*

<b>Release</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Where Documented</b>
12.2(4)T	PIM MIB Extensions	Protocol Independent Multicast (PIM) is an IP multicast routing protocol used for routing multicast data packets to multicast groups. RFC 2934 defines the PIM for IPv4 MIB, which describes managed objects that enable users to remotely monitor and configure PIM using Simple Network Management Protocol (SNMP).	<a href="#">Monitoring and Maintaining IP Multicast</a>
12.2(8)T	IGMPv3—Explicit Tracking of Hosts, Groups, and Channels	This IGMPv3—Explicit Tracking Host, Group, and Channel feature enables a multicast router to explicitly track the membership of all multicast hosts in a particular multiaccess network. This enhancement to the Cisco IOS implementation of IGMPv3 enables the router to track each individual host that is joined to a particular group or channel.	<a href="#">Customizing IGMP</a>
12.2(13)T	Multicast-VPN—IP Multicast Support of MPLS VPNs	The Multicast VPN feature provides the ability to support multicast over a Layer 3 Virtual Private Network (VPN). As enterprises extend the reach of their multicast applications, service providers can accommodate these enterprises over their Multiprotocol Label Switching (MPLS) core network. IP multicast is used to stream video, voice, and data to an MPLS VPN network core.	<a href="#">Configuring Multicast VPN</a>
12.2(15)T	IGMP State Limit	The IGMP State Limit feature introduces the capability to limit the number of mroute states resulting from IGMP membership states per interface, per subinterface, or globally.	<a href="#">Customizing IGMP</a>
12.2(15)T	Multicast Subsecond Convergence	The Multicast Subsecond Convergence feature comprises a comprehensive set of features and protocol enhancements that provide for improved scalability and convergence in multicast-based services. This feature set provides for the ability to scale to larger services levels and to recover multicast forwarding after service failure in subsecond time frames.	<a href="#">Multicast Subsecond Convergence</a>

**Table 1** *Supported IP Multicast Features (continued)*

<b>Release</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Where Documented</b>
12.3(2)T	Source Specific Multicast (SSM) Mapping	The Source Specific Multicast (SSM) Mapping feature extends the Cisco IOS suite of SSM transition tools, which also includes URD and IGMP v3lite. SSM mapping supports SSM transition in cases where neither URD nor IGMP v3lite is available, or when supporting SSM on the end system is impossible or unwanted due to administrative or technical reasons. SSM mapping enables you to leverage SSM for video delivery to legacy STBs that do not support IGMPv3 or for applications that do not take advantage of the IGMPv3 host stack.	<a href="#">Source Specific Multicast (SSM) Mapping</a>
12.3(4)T	MSDP Compliance with IETF RFC 3618	The MSDP Compliance with IETF RFC 3618 feature enables you to configure MSDP to comply with the peer-RPF forwarding rules defined in the IETF RFC 3618 specifications.	<a href="#">Using MSDP to Interconnect Multiple PIM-SM Domains</a>
12.3(4)T	PIM Dense Mode Fallback Prevention in a Network Following RP Information Loss	The PIM Dense Mode Fallback Prevention in a Network Following RP Information Loss feature enables you to prevent PIM-DM fallback when all RPs fail. Preventing the use of dense mode is very important to multicast networks whose reliability is critical. This feature provides a mechanism to keep the multicast groups in sparse mode. This feature also allows you to block multicast traffic for groups not specifically configured.	<a href="#">IP Multicast Technology Overview</a> <a href="#">Configuring Basic IP Multicast</a>
12.3(7)T	Extended ACL Support for IGMP to Support SSM in IPv4	The Extended ACL Support for IGMP to Support SSM in IPv4 feature enables IGMPv3 to accommodate extended access lists. IGMPv3 support of extended access lists allows you to leverage an important advantage of SSM in IPv4, that of filtering IGMPv3 reports based on source address, group address, or both.	<a href="#">Customizing IGMP</a>
12.3(11)T	SSM Channel-Based Filtering for Multicast Boundaries	The SSM Channel Based Filtering for Multicast Boundaries feature enables the application of SSM filtering policies based on SSM channels.	<a href="#">SSM Channel-Based Filtering for Multicast Boundaries</a>
12.3(14)T	Multicast VPN MIB	The Multicast VPN MIB feature introduces the capability for SNMP monitoring of an MVPN using the MVPN MIB (CISCO-MVPN-MIB).	<a href="#">Multicast VPN MIB</a>

**Table 1** *Supported IP Multicast Features (continued)*

Release	Feature Name	Feature Description	Where Documented
12.3(14)T	Per Interface Mroute State Limit	The Per Interface Mroute State Limit feature provides the capability to limit the number of mroute states on an interface for different ACL-classified sets of multicast traffic. This feature can be used to prevent DoS attacks, or to provide a multicast CAC mechanism in network environments where all the multicast flows roughly utilize the same amount of bandwidth.	<a href="#">Configuring Multicast Admission Control</a>
12.3(14)T	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 IGMPv3 host stack for SSM groups. Enabling the IGMPv3 host stack ensures that hosts on a LAN can leverage SSM by enabling the router to initiate IGMPv3 joins, such as in environments where fast channel change is required in a SSM deployments.	<a href="#">Customizing IGMP</a>
12.4(2)T	MSDP MD5 Password Authentication	The MSDP MD5 password authentication feature is an enhancement to support MD5 signature protection on a TCP connection between two MSDP peers. This feature provides added security by protecting MSDP against the threat of spoofed TCP segments being introduced into the TCP connection stream.	<a href="#">Using MSDP to Interconnect Multiple PIM-SM Domains</a>
12.4(4)T	Multicast Service Reflection	The Multicast Service Reflection feature provides the capability for users to translate externally received multicast destination addresses to addresses that conform to their organization's internal addressing policy. Using this feature, users do not need to redistribute routes at the translation boundary into their network infrastructure for Reverse Path Forwarding (RPF) to work properly, and users can receive identical feeds from two ingress points in the network and route them independently.	<a href="#">Implementing Multicast Service Reflection</a>
12.4(15)T	Bandwidth-Based CAC for IP Multicast	The Bandwidth-Based CAC for IP Multicast feature enhances the Per Interface Mroute State Limit feature by implementing a way to count per interface mroute state limiters using cost multipliers. This feature can be used to provide bandwidth-based CAC on a per interface basis in network environments where the multicast flows utilize different amounts of bandwidth.	<a href="#">Configuring Multicast Admission Control</a>

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