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, 12.4T, and 15.0
- Cisco IOS Releases 15.0S
- Cisco IOS Release XE 3.1.0SG

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 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
Cisco IOS Releases 12.0S			
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 IGMPv3 enables the router to track each individual host that is joined to a particular group or channel.	Customizing IGMP
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 SSM in IPv4, that of filtering IGMPv3 reports based on source address, group address, or both.	Customizing IGMP
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.	Multicast Subsecond Convergence
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 VPN. As enterprises extend the reach of their multicast applications, service providers can accommodate these enterprises over their MPLS core network. IP multicast is used to stream video, voice, and data to an MPLS VPN network core.	Configuring Multicast VPN
12.0(27)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.	Using MSDP to Interconnect Multiple PIM-SM Domains
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 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, thereby preventing dense mode flooding.	IP Multicast Technology Overview Configuring Basic IP Multicast

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
12.0(29)S	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.	Configuring Multicast VPN Inter-AS Support
12.0(29)S	Multicast VPN MIB	The Multicast VPN MIB feature introduces the capability for SNMP monitoring of a MVPN using the MVPN MIB (CISCO-MVPN-MIB).	Multicast VPN MIB
12.0(30)S	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 a MPLS Layer 3 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.	Configuring Multicast VPN Inter-AS Support
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.	Configuring Multicast VPN Inter-AS Support
Cisco IOS Releases 12.2S			
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.	Configuring Multicast Admission Control
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.	Customizing IGMP

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
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.	Multicast Subsecond Convergence
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 VPN. As enterprises extend the reach of their multicast applications, service providers can accommodate these enterprises over their MPLS core network. IP multicast is used to stream video, voice, and data to an MPLS VPN network core.	Configuring Multicast VPN
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 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 STBs that do not support IGMPv3 or for applications that do not take advantage of the IGMPv3 host stack.	Source Specific Multicast (SSM) Mapping
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.	Customizing IGMP
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.	Using MSDP to Interconnect Multiple PIM-SM Domains
Cisco IOS Releases 12.2SB			

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
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.	Customizing IGMP
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.	Using MSDP to Interconnect Multiple PIM-SM Domains
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.	Source Specific Multicast (SSM) Mapping
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.	Configuring Multicast VPN Inter-AS Support
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.	Configuring Multicast VPN Extranet Support
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.	Configuring Multicast VPN Extranet Support

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
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.	Configuring Multicast VPN Inter-AS Support
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.	Configuring Multicast VPN Inter-AS Support
Cisco IOS Releases 12.2SR			
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.	Configuring Multicast VPN Inter-AS Support
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.	Customizing IGMP
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.	Using MSDP to Interconnect Multiple PIM-SM Domains

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
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.	Configuring Multicast VPN Inter-AS Support
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).	Multicast VPN MIB
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, thereby preventing dense mode flooding.	IP Multicast Technology Overview Configuring Basic IP Multicast
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.	Configuring Multicast VPN Inter-AS Support
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 CAC on a per interface basis in network environments where the multicast flows utilize different amounts of bandwidth.	Configuring Multicast Admission Control

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.	Load Splitting IP Multicast Traffic over ECMP
12.2(33)SRB	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.	Configuring Multicast Admission Control
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.	Configuring Multicast VPN Extranet Support
12.2(33)SRE	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 **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.	IGMP Static Group Range Support

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
12.2(33)SRE	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.	Customizing IGMP
12.2(33)SRE	ISSU—IPv4 Multicast	The ISSU—IPv4 Multicast feature enhances IPv4 multicast HA by providing support for ISSU.	Monitoring and Maintaining Multicast HA Operations (ISSU and NSF/SSO)
12.2(33)SRE	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.	Using MSDP to Interconnect Multiple PIM-SM Domains
12.2(33)SRE	NSF/SSO—IPv4 Multicast	The NSF/SSO—IPv4 Multicast feature reduces the reconvergence time of the multicast control plane to a level that is transparent to most IPv4 multicast-based applications. Multicast NSF ensures uninterrupted flow of multicast traffic during an RP failure. Multicast SSO ensures that necessary information such as RP information, data driven events, and other multicast information is checkpointed to ensure the seamless takeover of the standby RP after an RP failover.	Monitoring and Maintaining Multicast HA Operations (ISSU and NSF/SSO)
12.2(33)SRE	PIM Stub	The PIM Stub feature introduces the capability to configure an interface to operate in PIM passive mode, which means that the router will not send PIM messages on the interface nor will it accept PIM messages from other routers across this interface. The router will instead consider that is is the only PIM router on the network and thus act as the DR and also as the DF (for all bidir-PIM group ranges). This mode is used primarily in multicast stub routing scenarios.	Implementing Multicast Stub Routing

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
12.2(33)SRE	PIM Triggered Joins	The PIM Triggered Joins feature is an HA multicast enhancement that improves the reconvergence of mroutes after an RP switchover. In the event of an RP switchover, this feature utilizes the PIM-SM GenID value as a mechanism to trigger adjacent PIM neighbors on an interface to send PIM join messages for all (*, G) and (S, G) mroutes that use that interface as an RPF interface, immediately reestablishing those states on the newly active RP.	Monitoring and Maintaining Multicast HA Operations (ISSU and NSF/SSO) PIM Triggered Joins
Cisco IOS Releases 12.2SX			
12.2(18)SXD3	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.	Source Specific Multicast (SSM) Mapping
12.2(18)SXF5	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 **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.	IGMP Static Group Range Support
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.	Configuring Multicast VPN Inter-AS Support
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.	Customizing IGMP

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
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.	Configuring Multicast VPN Extranet Support
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.	Using MSDP to Interconnect Multiple PIM-SM Domains
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.	Using MSDP to Interconnect Multiple PIM-SM Domains
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.	Configuring Multicast VPN Extranet Support
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.	Configuring Multicast VPN Inter-AS Support
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).	Multicast VPN MIB

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
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, thereby preventing dense mode flooding.	IP Multicast Technology Overview Configuring Basic IP Multicast
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.	Configuring Multicast VPN Inter-AS Support
12.2(33)SXH	PIM Triggered Joins	The PIM Triggered Joins feature is an HA multicast enhancement that improves the reconvergence of mroutes after an RP switchover. In the event of an RP switchover, this feature utilizes the PIM-SM GenID value as a mechanism to trigger adjacent PIM neighbors on an interface to send PIM join messages for all (*, G) and (S, G) mroutes that use that interface as an RPF interface, immediately reestablishing those states on the newly active RP.	PIM Triggered Joins
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.	Configuring Multicast Admission Control
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.	Configuring Multicast Admission Control

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
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-RP mappings and bidir-PIM DF information on the standby RP. In addition, this feature also provides ISSU support for PIM.	SSO—IPv4 Multicast HA Support for Group-to-RP Mapping
Cisco IOS Releases 12.2T, 12.3, 12.3T, 12.4, 12.4T, and 15.0			
12.2(4)T	PIM MIB Extensions	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 SNMP.	Monitoring and Maintaining IP Multicast
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.	Customizing IGMP
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 VPN. As enterprises extend the reach of their multicast applications, service providers can accommodate these enterprises over their MPLS core network. IP multicast is used to stream video, voice, and data to an MPLS VPN network core.	Configuring Multicast VPN
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.	Customizing IGMP
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.	Multicast Subsecond Convergence

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
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.	Source Specific Multicast (SSM) Mapping
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.	Using MSDP to Interconnect Multiple PIM-SM Domains
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, thereby preventing dense mode flooding.	IP Multicast Technology Overview Configuring Basic IP Multicast
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.	Customizing IGMP
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.	SSM Channel-Based Filtering for Multicast Boundaries
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).	Multicast VPN MIB

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.	Configuring Multicast Admission Control
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.	Customizing IGMP
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.	Using MSDP to Interconnect Multiple PIM-SM Domains
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 RPF to work properly, and users can receive identical feeds from two ingress points in the network and route them independently.	Implementing Multicast Service Reflection
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.	Configuring Multicast Admission Control

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
15.0(1)M	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 **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.	IGMP Static Group Range Support
15.0(1)M	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.	Load Splitting IP Multicast Traffic over ECMP
15.0(1)M	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.	Configuring Multicast VPN Extranet Support
15.0(1)M	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.	Configuring Multicast VPN Extranet Support

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
15.0(1)M	PIM Stub	The PIM Stub feature introduces the capability to configure an interface to operate in PIM passive mode, which means that the router will not send PIM messages on the interface nor will it accept PIM messages from other routers across this interface. The router will instead consider that is is the only PIM router on the network and thus act as the DR and also as the DF (for all bidir-PIM group ranges). This mode is used primarily in multicast stub routing scenarios.	Implementing Multicast Stub Routing
15.0(1)M	PIM Triggered Joins	The PIM Triggered Joins feature is an HA multicast enhancement that improves the reconvergence of mroutes after an RP switchover. In the event of an RP switchover, this feature utilizes the PIM-SM GenID value as a mechanism to trigger adjacent PIM neighbors on an interface to send PIM join messages for all (*, G) and (S, G) mroutes that use that interface as an RPF interface, immediately reestablishing those states on the newly active RP.	PIM Triggered Joins
Cisco IOS Releases 15.0S			
15.0(1)S	PIM MIB Extensions	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 SNMP.	Monitoring and Maintaining IP Multicast
15.0(1)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.	Customizing IGMP
15.0(1)S	Multicast-VPN—IP Multicast Support of MPLS VPNs	The Multicast VPN feature provides the ability to support multicast over a Layer 3 VPN. As enterprises extend the reach of their multicast applications, service providers can accommodate these enterprises over their MPLS core network. IP multicast is used to stream video, voice, and data to an MPLS VPN network core.	Configuring Multicast VPN

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
15.0(1)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.	Customizing IGMP
15.0(1)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.	Multicast Subsecond Convergence
15.0(1)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 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.	Source Specific Multicast (SSM) Mapping
15.0(1)S	Source Specific Multicast (SSM)	The Source Specific Multicast (SSM) feature is an extension of IP multicast where datagram traffic is forwarded to receivers from only those multicast sources that the receivers have explicitly joined. For multicast groups configured for SSM, only source-specific multicast distribution trees (not shared trees) are created.	Configuring Basic IP Multicast
15.0(1)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.	Using MSDP to Interconnect Multiple PIM-SM Domains
15.0(1)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 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, thereby preventing dense mode flooding.	IP Multicast Technology Overview Configuring Basic IP Multicast

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
15.0(1)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.	Customizing IGMP
15.0(1))S	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.	Configuring Multicast VPN Inter-AS Support
15.0(1)S	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.	Using MSDP to Interconnect Multiple PIM-SM Domains
15.0(1)S	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.	Load Splitting IP Multicast Traffic over ECMP
15.0(1)S	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.	Configuring Multicast VPN Extranet Support

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
15.0(1)S	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 a MPLS Layer 3 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.	Configuring Multicast VPN Inter-AS Support
15.0(1)S	ISSU—IPv4 Multicast	The ISSU—IPv4 Multicast feature enhances IPv4 multicast HA by providing support for ISSU.	Monitoring and Maintaining Multicast HA Operations (ISSU and NSF/SSO)
15.0(1)S	NSF/SSO—IPv4 Multicast	The NSF/SSO—IPv4 Multicast feature reduces the reconvergence time of the multicast control plane to a level that is transparent to most IPv4 multicast-based applications. Multicast NSF ensures uninterrupted flow of multicast traffic during an RP failure. Multicast SSO ensures that necessary information such as RP information, data driven events, and other multicast information is checkpointed to ensure the seamless takeover of the standby RP after an RP failover.	Monitoring and Maintaining Multicast HA Operations (ISSU and NSF/SSO)
15.0(1)S	NSF/SSO—IPv6 Multicast	The NSF/SSO—IPv6 Multicast feature reduces the reconvergence time of the multicast control plane to a level that is transparent to most IPv6 multicast-based applications. Multicast NSF ensures uninterrupted flow of multicast traffic during an RP failure. Multicast SSO ensures that necessary information such as RP information, data driven events, and other multicast information is checkpointed to ensure the seamless takeover of the standby RP after an RP failover.	Monitoring and Maintaining Multicast HA Operations (ISSU and NSF/SSO)
15.0(1)S	MLDP-Based MVPN	The MLDP-based MVPN feature provides extensions to Label Distribution Protocol (LDP) for the setup of point-to-multipoint (P2MP) and multipoint-to-multipoint (MP2MP) label switched paths (LSPs) for transport in the Multicast Virtual Private Network (MVPN) core network.	MDLP-Based MVPN
Cisco IOS Release XE 3.1.0SG			

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
Cisco IOS XE 3.1.0SG	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.	Customizing IGMP
Cisco IOS XE 3.1.0SG	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.	Multicast Subsecond Convergence
Cisco IOS XE 3.1.0SG	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.	Source Specific Multicast (SSM) Mapping
Cisco IOS XE 3.1.0SG	Source Specific Multicast (SSM)	The Source Specific Multicast (SSM) feature is an extension of IP multicast where datagram traffic is forwarded to receivers from only those multicast sources that the receivers have explicitly joined. For multicast groups configured for SSM, only source-specific multicast distribution trees (not shared trees) are created.	Configuring Basic IP Multicast
Cisco IOS XE 3.1.0SG	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.	Using MSDP to Interconnect Multiple PIM-SM Domains

Table 1 Supported IP Multicast Features (continued)

Release	Feature Name	Feature Description	Where Documented
Cisco IOS XE 3.1.0SG	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, thereby preventing dense mode flooding.	IP Multicast Technology Overview Configuring Basic IP Multicast
Cisco IOS XE 3.1.0SG	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.	Customizing IGMP
Cisco IOS XE 3.1.0SG	PIM Stub	The PIM Stub feature introduces the capability to configure an interface to operate in PIM passive mode, which means that the router will not send PIM messages on the interface nor will it accept PIM messages from other routers across this interface. The router will instead consider that is is the only PIM router on the network and thus act as the DR and also as the DF (for all bidir-PIM group ranges). This mode is used primarily in multicast stub routing scenarios.	Implementing Multicast Stub Routing