Multicast routing features

Multicast routing features are a comprehensive suite of protocols and mechanisms designed to efficiently forward IP packets from a single source to a group of interested receivers. Unlike unicast (one-to-one) or broadcast (one-to-all), multicast (one-to-many) optimizes network resources by creating a targeted delivery path.

Their primary goal is to conserve network bandwidth and reduce host processing overhead by building an optimal **distribution tree** that delivers traffic only to the network segments where there are active listeners, rather than flooding it everywhere.

Starting with Cisco NX-OS Release 10.6(1s), you can configure these multicast routing features on the Cisco N9324C-SE1U, Cisco N9348Y2C6D-SE1U switches.

- IPv4 Layer 2 and Layer 3 multicast
- Multicast consistency checker
- Layer 3 physical interface, port channel, sub-interface, and SVI
- Layer 2 port channel
- Multicast flow counter

IPv4 Layer 2 and Layer 3 multicast

IPv4 Layer 2 and Layer 3 multicast is a comprehensive multicast solution where **Layer 2 multicast** (using IGMP Snooping) provides efficient traffic delivery within a single broadcast domain (VLAN), and **Layer 3 multicast** (using routing protocols like PIM) provides end-to-end routing of that traffic between different subnets across the network.

For more information on IPv4 Layer 2 and Layer 3 multicast, see Overview.

Multicast consistency checker

Multicast consistency checker is a diagnostic tool that periodically verifies the consistency of multicast configurations and states (such as PIM RPs or IGMP queriers) between routers on a shared network segment, helping to identify and troubleshoot misconfigurations.

For more information on multicast consistency checker, see Overview.

Layer 3 physical interface, port channel, sub-interface, and SVI

Layer 3 physical interface, port channel, sub-interface, and SVI are the various types of Layer 3 interfaces on which multicast routing protocols, such as PIM, can be enabled. This allows the device to participate in multicast routing, build distribution trees, and forward multicast packets on physical ports, aggregated links, logical sub-interfaces, or VLAN interfaces (SVIs).

For more information on Layer 3 physical interface, port channel, sub-interface, and SVI, see Overview.

Layer 2 port channel

Layer 2 port channel An aggregated link operating at Layer 2 that can carry multicast traffic for one or more VLANs. IGMP snooping can be enabled on the port channel to learn which multicast groups are needed by downstream devices, ensuring that multicast frames are forwarded efficiently across the aggregated link.

For more information on Layer 2 port channel, see Overview.

Multicast flow counter

Multicast flow counter feature is a hardware-assisted capability that enables a network device to track traffic statistics for individual multicast flows, identified by their unique Source, Group (S,G) pair. This provides granular visibility into the packet and byte volume of specific streams, allowing for precise monitoring and troubleshooting of multicast applications.

For more information on multicast flow counter, see Multicast Counters.

• Multicast routing feature guidelines, on page 2

Multicast routing feature guidelines

This section outlines feature support, guidelines, and limitations for multicast routing functionalities on Cisco N9300 Series smart switches.

Guidelines and limitations for multicast routing Features

Table 1: Supported features and releases

Features	Release
IPv4 Layer 2 and Layer 3 multicast	10.6(1s)
Multicast consistency checker	10.6(1s)
Layer 3 physical interface, port channel, sub-interface, and SVI	10.6(1s)
Layer 2 port channel	10.6(1s)
Multicast flow counter for IPv4	10.6(1s)