



Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release Notes, Release 10.3(2)F

Introduction

This document describes the Cisco IP fabric for media solution, new hardware and software features, upgrade instructions, and caveats for Cisco NX-OS Release 10.3(2)F software for use on the following:

- N9K- C9408

Table 1. Online History Change

Date	Description
December 19, 2022	Cisco NX-OS Release 10.3(2)F became available.

IP Fabric for Media

Today, the broadcast industry uses a serial digital interface (SDI) router and SDI cables to transport video and audio traffic. The SDI cables can carry only a single unidirectional signal. As a result, many cables, frequently stretched over long distances, is required, making it difficult and time-consuming to expand or change an SDI-based infrastructure.

Cisco's IP fabric for media solution helps transition from an SDI router to an IP-based infrastructure. In an IP-based infrastructure, a single cable has the capacity to carry multiple bidirectional traffic flows and can support different flow sizes without requiring changes to the physical infrastructure. The solution uses Cisco Nexus 9000 Series switches in conjunction with the Cisco non-blocking multicast (NBM) algorithm (an intelligent traffic management algorithm) and with or without the Cisco DCNM Media Controller to provide a highly reliable (zero drop multicast), highly visible, highly secure, and highly available network.

Cisco Nexus 9000 Series NX-OS IP Fabric for Media solution supports the following types of deployments:

- Spine-leaf topology—A single or multi-spine deployment method with variable flow size that allows the NBM fabric to form a multicast flow.
- Single modular switch—An architecture suitable for fixed deployments, with the controller providing features such as flow visibility, security, and monitoring.

New Hardware Features

The following new hardware are introduced in Cisco NX-OS Release 10.3(2)F for deployment in IP Fabric for Media solution:

- N9408 - Centralized modular switches of 4 RU high, and eight expansion slots to support 64 ports of 400G or 128 ports of 200G.

Supported Device Hardware

Table 2 lists the hardware that the Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 10.3(2)F supports. For additional information about the supported hardware, see the [Hardware Installation Guide](#) for your Cisco Nexus 9000 Series device.

Table 2. Cisco Nexus 9000 Series Hardware

Product ID	Hardware Description	Role in Topology
N9K-C93108TC-EX	Cisco Nexus 93108TC-EX 1-RU switch with 48 10GBASE-T ports and 6 40/100-Gigabit QSFP28 ports	Leaf switch in spine-leaf topology
N9K-C93180YC-EX	Cisco Nexus 93180YC-EX 1-RU switch with 48 10/25-Gigabit Ethernet ports and 6 40/100-Gigabit QSFP28 ports	Leaf switch in spine-leaf topology
N9K-C93108TC-FX	Cisco Nexus 93108TC-FX 1-RU Top-of-Rack switch with 48 10GBASE-T (copper) ports and 6 40/100-Gigabit QSFP28 ports	Leaf switch in spine-leaf topology
N9K-C93180YC-FX	Cisco Nexus 93180YC-FX 1-RU Top-of-Rack switch with 48 10/25-Gigabit SFP28 ports and 6 40/100-Gigabit QSFP28 ports	Leaf switch in spine-leaf topology
N9K-C9348GC-FXP	Cisco Nexus 9348GC-FXP switch with 48 100M/1GBASE-T (copper) ports, 4 10/25-Gigabit SFP28 ports, and 2 40/100-Gigabit QSFP ports	Leaf switch in spine-leaf topology
N9K-C93180YC-FX3S	Cisco Nexus 93180YC-FX3S 1-RU Top-of-Rack switch with 48 25/50/100-Gigabit Ethernet SFP28 ports and 6 10/25/40/50/100-Gigabit QSFP28 ports	Leaf switch in spine-leaf topology
N9K-C93180YC-FX3	Cisco Nexus 93180YC-FX3 1-RU Top-of-Rack switch with 48 25/50/100-Gigabit Ethernet SFP28 ports and 6 10/25/40/50/100-Gigabit QSFP28 ports	Leaf switch in spine-leaf topology
N9K-C93180YC-FX3P	Cisco Nexus 93108TC-FX3P 1-RU Top-of-Rack switch with 48 10GBASE-T (copper) ports and 6 40/100-Gigabit QSFP28 ports	Leaf switch in spine-leaf topology
N9K-C93216TC-FX2	Cisco Nexus 93216TC-FX2 2-RU switch with 96 100M/1G/10G RJ45 ports and 12 40/100-Gigabit QSFP28 ports	Leaf switch in spine-leaf topology
N9K-C93360YC-FX2	Cisco Nexus 93360YC-FX2 2-RU switch with 96 10/25-Gigabit SFP+ ports and 12 40/10-Gigabit Ethernet QSFP28 ports	Leaf switch in spine-leaf topology
N9K-C93240YC-FX2	Cisco Nexus 93240YC-FX2 1.2-RU Top-of-Rack switch with 48 10/25-Gigabit SFP28 fiber ports and 12 40/100-Gigabit Ethernet QSFP28 ports	Spine or leaf switch in spine-leaf topology
N9K-C9336C-FX2	Cisco Nexus 9336C-FX2 1-RU switch with 36 40/100-Gigabit Ethernet QSFP28 ports	Spine or leaf switch in spine-leaf topology
N9K-C9336C-FX2-E	Cisco Nexus 9336C-FX2-E 1-RU switch with 36 40/100-Gigabit Ethernet QSFP28 ports	Spine or leaf switch in spine-leaf topology
N9K-C9364C	Cisco Nexus 9364C 2-RU Top-of-Rack switch with 64 40/100-Gigabit QSFP28 ports and 2 1/10-Gigabit SFP+ ports	Spine switch in spine-leaf topology
N9K-C9316D-GX	Cisco Nexus 9316D 1RU switch with 16 fixed 40/100/400G QSFP-DD ports	Spine switch in spine-leaf topology

Product ID	Hardware Description	Role in Topology
N9K-C93600CD-GX	Cisco Nexus 93600CD-GX 1RU switch with 28 fixed 40/100G QSFP-28 ports and 8 fixed 40/100/400G QSFP-DD ports	Spine or leaf switch in spine-leaf topology
N9K-C9364C-GX	Cisco Nexus 9364C-GX 2RU switch with 64 fixed 40/100G QSFP-28 ports	Spine or leaf switch in spine-leaf topology
N9K-C9364D-GX2A	Cisco Nexus 9364D-GX2A is a 2-Rack-Unit (2RU) switch with 64 fixed 40/100/400G QSFP-DD ports and two fixed 1/10G SFP+ ports	Spine or leaf switch in spine-leaf topology
N9K-C9348D-GX2A	Cisco Nexus 9348D-GX2A is a 2-Rack-Unit (2RU) switch with 48 fixed 40/100/400G QSFP-DD ports and two fixed 1/10G SFP+ ports	Spine or leaf switch in spine-leaf topology
N9K-C9332D-GX2B	Cisco Nexus 9332D-GX2B is a compact form-factor 1-Rack-Unit (1RU) switch with 32 fixed 40/100/400G QSFP-DD ports and two fixed 1/10G SFP+ ports	Spine or leaf switch in spine-leaf topology
Cisco Nexus 9504 or 9508 switch with the following line cards: N9K-X9636C-R N9K-X9636C-RX N9K-X9636Q-R	Cisco Nexus 9504 4-slot or 9508 8-slot switch N9K-X9636C-R: 36-port 40/100-Gigabit Ethernet QSFP28 line card N9K-X9636C-RX: 36-port 40/100-Gigabit Ethernet QSFP28 line card N9K-X9636Q-R: 36-port 40-Gigabit Ethernet QSFP+ line card	Spine in spine-leaf topology or single modular switch
N9K-X9624D-R2 N9K-C9508-FM-R2	N9K-X9624D-R2 Line card with 24 400G QSFP-DD ports (only to be used with 8-slot chassis) N9K-C9508-FM-R2 Fabric module for 400G line card (only to be used with 8-slot chassis)	Spine in spine-leaf topology or single modular switch
Cisco Nexus 9808 switch with the following line cards: N9K-X9836DM-A N9K-C9808-FM-A	Cisco Nexus 9808 8-slot modular chassis N9K-X9836DM-A Line card with 36 40/100/400G QSFP-DD ports (only to be used with 8-slot chassis) N9K-C9808-FM-A Fabric module for Nexus 9808	Spine in spine-leaf topology or single modular switch
Cisco Nexus 9408 switch with the following expansion modules: N9K-X9400-8D N9K-X9400-16W	Cisco Nexus 9408 is centralized modular switch with 8 line-card expansion modules (LEMs) N9K-X9400-8D: Nexus 9400 8p 400G QSFP-DD LEM N9K-X9400-16W: Nexus 9400 16p 200G LEM	Spine in spine-leaf topology or single modular switch

New and Enhanced Features

The following features are enhanced for Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 10.3(2)F.

Feature	Description
NBM support on sub-interfaces	NBM subinterface type is now supported in NBM pim-active and pim-passive modes on Layer 3 sub-interfaces. Support is provided on Cisco Nexus 9200, 9300, 9408 and 9800 platform switches, and Cisco Nexus 9504 and 9508 switches with -R line cards.
Multicast NAT support on sub-interfaces for IPFM flows	Multicast NAT support is now supported on all host and fabric ports for NBM pim-active and pim-passive modes on Layer 3 sub-interfaces.
Flexible NBM modes with Multi-tenancy VRF	Beginning with Cisco NX-OS Release 10.3(2)F, the pim-active and pim-passive modes can coexist on the same switch.
NAT Enhancement	Beginning with Cisco NX-OS Release 10.3(2)F, egress service reflection (egress multicast NAT, and multicast to unicast NAT) supports Post-NAT Source IP to be IP Address of an egress interface. This enhancement is supported for regular multicast, and for NBM.

Open Issues

There are no open issues in Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 10.3(2)F.

Resolved Issues

There are no resolved issues in Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 10.3(2)F.

Limitations

Sub interfaces should be in the same nbm VRF mode as its parent interface. They (Parent port and its sub interfaces) can be in either nbm pim-active or nbm pim-passive mode.

For example: If the parent port is part of NBM VRF which is in PIM active mode, its subinterfaces must also be in the VRF (can be different VRF context) with the same PIM active mode.

Upgrade Instructions

For upgrade instructions of Cisco NX-OS Software, refer to “Upgrading the Cisco NX-OS Software” section of [Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 10.3\(x\)](#).

Note: The default upgrade process is disruptive. Non-disruptive ISSU is not supported with feature nbm enabled.

Related Documentation

- *Cisco Nexus 9000 Series IP Fabric for Media Solution Guide, Release 10.3(x)*
- *Cisco Nexus 9000 Series NX-OS Release Notes, Release 10.3(x)*
- *Cisco Nexus 9000 Series NX-OS Verified Scalability Guide, Release 10.3(x)*
- *Cisco Nexus 3000 and 9000 Series NX-API REST SDK User Guide and API Reference*
- *Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 10.3(x)*
- *Cisco NDFC-Fabric Controller Configuration Guide, Release 12.1.x*
- *Cisco NDFC Installation Guide, Release 12.1.x*

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- The entire Cisco Nexus 9000 Series NX-OS documentation set is available at the following URL:
<http://www.cisco.com/c/en/us/support/switches/nexus-9000-series-switches/tsd-products-support-series-home.html>

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