Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release Notes, Release 7.0(3)I7(2)

This document describes the Cisco IP fabric for media solution, new software features, and caveats for Cisco NX-OS Release 7.0(3)I7(2) software for use on the following switches:

- Cisco Nexus 9236C switch
- Cisco Nexus 9272Q switch
- Cisco Nexus 92160YC-X switch
- Cisco Nexus 93108TC-EX switch
- Cisco Nexus 93180LC-EX switch
- Cisco Nexus 93180YC-EX switch
- Cisco Nexus 9504 and 9508 switches with the N9K-X9732C-EX, N9K-X9736C-EX, and N9K-X97160YC-EX line cards

Use this document in combination with documents listed in the "Related Documentation" section.

Table 1 shows the online change history for this document.

Table 1 Online History Change

Date	Description
November 22, 2017	Created the release notes for Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 7.0(3)I7(2).

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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 Release 7.0(3)I7(2) supports three deployment methods:

- A spine-leaf topology with the DCNM Media Controller—A flexible architecture for large-scale deployments typically seen in an IP studio
- A single modular switch with the DCNM Media Controller—An architecture suitable for fixed deployments, with the controller providing features such as flow visibility, security, and monitoring
- A single modular switch without the DCNM Media Controller—A simple deployment method for environments such as outside broadcasting (OB) vans

Supported Device Hardware

Table 2 lists the hardware that the Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 7.0(3)I7(2) 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-C9236C	Cisco Nexus 9236C 1-RU switch with 36 40-/100-Gigabit QSFP28 ports (144 10-/25-Gigabit ports when using breakout cables)	Spine or leaf switch in spine-leaf topology
N9K-C9272Q	Cisco Nexus 9272Q 2-RU switch with 72 40-Gigabit Ethernet QSFP+ ports (up to 35 of the ports [ports 37-71] also support breakout cables providing up to 140 10-Gigabit connections)	Spine or leaf switch in spine-leaf topology
N9K-C92160YC-X	Cisco Nexus 92160YC-X 1-RU switch with 48 10-/25-Gigabit SFP+ downlink ports and 6 40-Gigabit QSFP+ uplink ports, with 4 of the uplink ports capable of supporting QSFP28 transceivers (100 Gigabits)	Leaf switch in spine-leaf 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-C93180LC-EX	Cisco Nexus 93180LC-EX 1-RU switch with 32 40-/50-Gigabit downlink QSFP+ ports and 18 fixed 100-Gigabit uplink 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

Product ID	Hardware Description	Role in Topology
N9K-9504 and N9K-9508 with the N9K-X9732C-EX, N9K-X9736C-EX, and N9K-X97160YC-EX line cards	Cisco Nexus 9504 and 9508 switches N9K-X9732C-EX: Line card with 32 40-/100-Gigabit Ethernet QSFP28 ports N9K-X9736C-EX: Line card with 36 40-/100-Gigabit Ethernet QSFP28 ports N9K-X97160YC-EX: Line card with 48 10-/25-Gigabit Ethernet QSFP28 ports	Spine in spine-leaf topology with DCNM Media Controller or Single modular switch with or without DCNM Media Controller

New Hardware Features

Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 7.0(3)I7(2) does not include new hardware features.

New Software Features

This section lists the new software features in Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 7.0(3)I7(2).

- Added the ability to configure leaf switches as border leafs in order to connect multiple fabrics together and to support the exchange of media flows between an IP fabric for media and external systems.

For more information on these features, see the Cisco Nexus 9000 Series IP Fabric for Media Solution Guide.

Open Caveats

Table 3 lists the open caveats in Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 7.0(3)I7(2). Click the bug ID to access the Bug Search tool and see additional information about the bug.

Table 3 Open Caveats in Cisco Nexus 9000 Series NX-OS IP Fabric for Media Release 7.0(3)I7(2)

Bug ID	Description
CSCvf33293	Stale active flow entries on DCNM
CSCvf45146	Sender Deny and Receiver Deny will not deny traffic and stitch flow
CSCvf52935	Flow not cleaned from DCNM and Switch after igmp join and leave immediately after node reload

Limitations

Cisco NX-OS Release 7.0(3)I7(2) supports only one border leaf per fabric or site. Multiple border leafs in a given site are not supported.

A dynamic bandwidth change, in regards to the IP Fabric for Media bandwidth calculation, for an interface is not supported. For the bandwidth to take effect, an interface flap is needed and the new bandwidth is taken into consideration only after the interface comes up with the new bandwidth.

Upgrade and Downgrade Instructions

If you want to migrate from Cisco NX-OS Release 7.0(3)I4(2), you must upgrade your switches to Cisco NX-OS Release 7.0(3)I7(2) and completely change the configuration as the switches need to be reconfigured in NBM controller mode. You also need to modify the TCAM allocation. Because most deployments are built using redundant networks, with minimal or no disruption to production, each side of the fabric can be upgraded one after the other.

To perform a software upgrade or downgrade, follow the installation instructions in the Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide and refer to the Cisco Nexus 9000 Series NX-OS Release Notes, Release 7.0(3)I7(2) for specific upgrade and downgrade information related to the release.

Related Documentation

- Cisco Nexus 9000 Series IP Fabric for Media Solution Guide
- Cisco Nexus 9000 Series NX-OS Release Notes, Release 7.0(3)I7(2)
- Cisco DCNM Installation Guide, Release 10.3(x)
- 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

Documentation Feedback

To provide technical feedback on this document, or to report an error or omission, please send your comments to nexus9k-docfeedback@cisco.com. We appreciate your feedback.

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For information on obtaining documentation and gathering additional information, see the monthly What's New in Cisco Product Documentation, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Open a service request online at:

https://tools.cisco.com/ServiceRequestTool/create/launch.do

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS version 2.0.

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.openssl.org/). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

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