Cisco Nexus 9000 Series NX-OS Release Notes, Release 10.2(3)F

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Introduction

This document describes the features, issues, and exceptions of Cisco NX-OS Release 10.2(3)F software for use on Cisco Nexus 9000 Series switches.

The new Cisco NX-OS Software Release and Image-naming Convention information is available here — Cisco NX-OS Software Strategy and Lifecycle Guide.

Note: The documentation set for this product strives to use bias-free language. For the purposes of this documentation set, bias-free is defined as language that does not imply discrimination based on age, disability, gender, racial identity, ethnic identity, sexual orientation, socioeconomic status, and intersectionality. Exceptions may be present in the documentation due to language that is hardcoded in the user interfaces of the product software, language used based on RFP documentation, or language that is used by a referenced third-party product.

The following table lists the changes to this document:

Date	Description
April 25, 2024	Added CSCwh50989 and CSCwe53655 to Open Issues.
May 05, 2023	Added PTP in Unsupported Features on N9K-C92348GC section
April 09, 2023	Added caveat in CSCwe67205 in Open Issues table.
February 3, 2023	Updated Table 11 with N9K-C9336C-FX2 and N9K-C9336C-FX2-E switches.
April 26, 2022	Cisco NX-OS Release 10.2(3)F became available.

New and Enhanced Software Features

New Features	
Feature	**Description**
Bonjour Gateway Support	Added Bonjour Gateway support for N9K-C93180YC-EX, N9K-C93180YC-FX, N9K-C9336C-FX2, N9K-C9332C, N9K-C93108TC-EX platform switches in SDG-Agent mode with DNAC integration. For more information, see Cisco DNA Service for Bonjour Configuration Guide, Release 10.2(3)F (Cisco Nexus 9000 Series NX-OS).
Device Connector on NX-OS	Added support for Device Connector on NX-OS feature which provides a secure way for the connected devices to send information and receive control instructions from the Cisco Intersight portal using a secure Internet connection. The NXDC feature is enabled by default. For more information, see Cisco Nexus 9000 NX-OS Fundamentals Configuration Guide, Release 10.2(x).
DHCPv6 Prefix Delegation with Static Route Insertion	Added support in the DHCP relay to snoop DHCPv6 Prefix-Delegation relay packet and to add a static route for Prefix Address pre-set in DHCPv6 reply packet. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.2(x) and Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 10.2(x).

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New Features	
Feature	**Description**
Lightweight Nexus 9000v	Introduced a light weight image with a reduced memory footprint resulting in a much smaller size image than the earlier images for Cisco Nexus 9300v and 9500v. This image can be installed during the boot-up time. For more information, see Cisco Nexus 9000v (9300v/9500v) Guide, Release 10.2(x).

The enhanced features listed below are existing features introduced in earlier releases but enhanced to support new platforms in Cisco NX-OS Release 10.2(3)F.

Enhanced Features	
Feature	**Description**
L2RIB DMEization of Operational Data	Added new DMEization commands for Layer-2 Routing Information Base (L2RIB). For more information, see Cisco Nexus 3000 and 9000 Series NX-API REST SDK User Guide and API Reference, Release 10.2(x).
LXC Upgrade	Added a new kernel option '" skip kernel-upgrade" to the install command for non-disruptive upgrades for switches running in LXC mode. For more information, see Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 10.2(x).
BGP AS auto-derived from system mac.	Added a new tag argument " auto" for the BGP Local ASN configuration option. For more information, see Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 10.2(x).
BGP Router ID Auto-generation	Added a new tag argument " auto" for the router id configuration option for BGP. For more information, see Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 10.2(x).
BGP Neighbor Remote ASN Type	Added a new configuration option " remote-as <type>" for the BGP Neighbor. For more information, see Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 10.2(x).
Closing operational gaps on existing OC models	This enhancement adds support to fetch data using the newly implemented state properties. For more information, see Cisco Nexus OpenConfig YANG Reference, Release 10.2(x).
OpenConfig Network Instance, FDB Enhancements	Added support for OpenConfig FDB model to display and configure static, secure, and dynamic MAC addresses. For more information, see Cisco Nexus OpenConfig YANG Reference, Release 10.2(x).
OpenConfig IS-IS model support	Added support for OpenConfig and DMEization of IS-IS operational data. For more information, see Cisco Nexus OpenConfig YANG Reference, Release 10.2(x).
Type 6 password portability	Added support for authentication keys using Type-6 encryption for better protection. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.2(x).

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Enhanced Features	
Feature	**Description**
802.1Q DEI bit	Added support for Drop Eligible Indicator (DEI) that indicates the frames that are eligible to be dropped in the presence of congestion. For more information, see Cisco Nexus 9000 NX-OS Interfaces Configuration Guide, Release 10.2(x).
ECMP support for IP Unnumbered	Added Equal Cost MultiPath (ECMP) support for IP Unnumbered in EVPN Underlay which enables resolution of ARP on all connected interfaces. For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.2(x).
ESR - ePBR L3	Added Enhanced Policy Based Routing (ePBR) support for L3 service type which provides traffic redirection and service chaining across the standalone and fabric topologies. For more information, see Cisco Nexus 9000 Series NX-OS ePBR Configuration Guide, Release 10.2(x).
ESR - ePBR L2	Added Enhanced Policy Based Routing (ePBR) support for L2 service type which provides traffic redirection and service chaining across the standalone and fabric topologies. For more information, see Cisco Nexus 9000 Series NX-OS ePBR Configuration Guide, Release 10.2(x).
Streaming ephemeral data	Added support for change subscription of Device YANG ephemeral data (Accounting-log and Multicast). For more information, see Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 10.2(x).
gNMI enhancements: suppress_redundant and heartbeat_internval options	Added support for the optional flags suppress_redundant and heartbeat_interval for gNMI Subscribe service. For more information, see Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 10.2(x).
IPFM: VRF Aware Egress NAT for PMN flows	Added support for Unicast to Multicast NAT, Multicast to Unicast NAT, Multicast to Multicast NAT, and Egress NAT on non-default VRF. For more information, see Cisco Nexus 9000 Series NX-OS IP Fabric for Media Solution Guide, Release 10.2(x) and Cisco Nexus 3000 and 9000 Series NX-API REST SDK User Guide and API Reference, Release 10.2(x).
NAT support on sub-interface for native multicast flows	Beginning with Cisco NX-OS Release 10.2(3)F, Network Address Translation (NAT) is supported with sub-interface. For more information, see Cisco Nexus 9000 Series NX-OS IP Fabric for Media Solution Guide, Release 10.2(x).
VRF Aware Egress NAT for Native Multicast Flows	Added support for VRF aware egress NAT for native multicast flows. For more information, see Cisco Nexus 9000 Series NX-OS IP Fabric for Media Solution Guide, Release 10.2(x).
Egress buffer statistics via model based APIs	Added new DME properties for Quality of Serivce (QoS) Counters. For more information, see Cisco Nexus 3000 and 9000 Series NX-API REST SDK User Guide and API Reference, Release 10.2(x).

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Enhanced Features	
Feature	**Description**
Port Multi-VLAN Mapping	Added support for the Port Multi-VLAN Mapping feature on N9KC9316D-GX, N9K-C93600CD-GX, N9K-C9364C-GX, Cisco Nexus 9364D-GX2, and Cisco Nexus 9332D-GX2 switches. For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.2(x).
EIGRP Single VRF Scale	Added support for EIGRP routes on a single VRF for Nexus 9700-EX/FX is 50000 and the number of EIGRP neighbors supported on a single VRF for Nexus 9700-EX/FX is 2000. For more information, see Cisco Nexus 9000 Series NX-OS Verified Scalability Guide, Release 10.2(3)F.
NGOAM	Beginning with Cisco NX-OS Release 10.2(3), you do not have to enable the VXLAN feature using the '**feature nv overlay**' command to use the NGOAM feature. For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.2(x).
FabricPath to VXLAN Migration	Added support for co-existence of FHRP Gateway with Anycast Gateway. For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.2(x).
VXLAN with IPv6 in the Underlay (VXLANv6)	Added support for VXLAN with IPv6 in the Underlay (VXLANv6) on Nexus 9700-EX/FX and N9K-X9716D-GX line cards, with following modules: N9K-X9716D-GX N9K-X97160YC-EX, N9K-X9736C-FX with N9K-C9508-FM-E2 fabric module N9K-X97160YC-EX with N9K-C9508-FM-E fabric module For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.2(x).
VXLAN policy-based redirect (PBR)	Added support for VXLAN PBR feature with VXLANv6 on all TOR switches. For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.2(x).
Delay timer support on NVE interface	Introduced the '**fabric-ready time** *seconds*' command for NVE to configure a delay timer that will delay the fabric route advertisement to VRF peers and VRF peer routes to fabric. For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.2(x).
vPC Fabric Peering ISSU support	Added support for non-disruptive ISSU for vPC Fabric peering feature for Cisco Nexus 9300 TOR platform switches. For more information, see Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 10.2(x).
sFlow flow-cache size increase	Beginning with Cisco NX-OS Release 10.2(3)F, sFlow flow-cache size is increased to 30k v4 and 30k v6 route entries from 3k route entries in earlier releases. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.2(x).
Microburst monitoring on FX3 FEX mode	Added support for micro-burst monitoring on Cisco Nexus 9300-FX3 FEX. For more information, see Cisco Nexus 9000 Series NX-OS Quality of Service

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Enhanced Features	
Feature	**Description**
	Configuration Guide, Release 10.2(x).
Hardware SUDI for POAP/HTTPS	Beginning with Cisco NX-OS Release 10.2(3)F, you can securely download the POAP script for standalone Cisco Nexus 9000 platform switches. Though the hardware SUDI is used for authentication, the file server can be hosted on either a SUDI device or a non-SUDI device. However, for a non-SUDI device, the root-CA bundle is required to authenticate the file server. For more information, see Cisco Nexus 9000 Series NX-OS Fundamentals Configuration Guide, Release 10.2(x).
Increase ACL LOU threshold	Added support for configurable LOU threshold limit for ACL configuration on Cisco Nexus 9500-R platform switches. For more information, see Cisco Nexus 9000 Series NX-OS Security Guide, Release 10.2(x) and Cisco Nexus 9000 Series NX-OS Verified Scalability Guide, Release 10.2(3)F.
VLAN Isolation with Inner Vlan Tag Preservation	Beginning with Cisco NX-OS Release 10.2(3)F, the inner tag (in a QinQ or Double tagged packet) will be preserved on a PVLAN trunk. For more information, see Cisco Nexus 9000 Series NX-OS Layer 2 Switching Configuration Guide, Release 10.2(x).
SRTE BGP Color support	Beginning with Cisco NX-OS Release 10.2(3)F, the option of color-only (CO) bits is added in route map. If the value of the CO bits change for a given prefix that is using an SRTE policy, BGP will delete the old policy and add a new policy. For more information, see Cisco Nexus 9000 Series NX-OS Label Switching Configuration Guide, Release 10.2(x).
Correctly advertise LLDP chassis-ID	Added a global configuration command to display the switch chassis ID for all the ports instead of unique chassis id per port. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.2(x) and Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 10.2(x).
Co-existence of MPLS Stripping, ERSPAN and other header stripping features	Beginning with Cisco NX-OS Release 10.2(3)F, with the addition of the OFM-based MPLS stripping feature, you have the option of co-existence of MPLS stripping with the existing OFM-based features such as VXLAN, iVXLAN, ERSPAN, and GRE stripping. The existing MPLS stripping feature continues to support MPLS stripping where co-existence is not required with the other stripping features. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.2(x).
RIPng	Added RIP functionality for IPv6 on Cisco Nexus 9000 series switches. For more information, see Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 10.2(x) and Cisco Nexus 9000 Series NX-OS Verified Scalability Guide, Release 10.2(3)F.
Authenticated SMTP support from NX-OS for call home	Added support for the authenticated SMTP feature to allow for secure callhome mail transfer. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.2(x).
IPv6 ERSPAN Destination support	Added support for ERSPAN IPv6 termination on Cisco Nexus 9300-GX2, 9300-GX, 9300-FX2, 9300-EX, 9300-FX3, 9300-FX3S, and 9300-FX3P platform switches and N9K-X9716D-GX, N9K-X9736C-EX, N9K-X9732C-EX, N9K-X9732C-EXM, N9K-

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Enhanced Features	
Feature	**Description**
	X97160YC-EX, and N9K-X9736C-FX line cards. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.2(x).
FCoE feature enablement on Cisco Nexus 9000v platform switches	Beginning with Cisco NX-OS Release 10.2(3)F, the fcoe/fcoe-npv feature-set can be enabled only on Cisco Nexus 9000v platform switches. For more information, see Cisco Nexus 9000v (9300v/9500v) Guide, Release 10.2(x) and Cisco Nexus 9000v Guide, Release 10.2(x).
PTP Support of upto 2000 secondary devices per switch	Beginning with Cisco NX-OS Release 10.2(3)F, the PTP Scale Enhancement feature provides an option to support a maximum of 100 multicast secondary devices per port, with a system-wide support for a maximum of 2000 multicast secondary devices. This feature is only supported on Cisco Nexus 9000-FX2 and 9000-FX3 platform switches. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.2(x).
Egress filtering for subinterfaces on Nexus 9300	Beginning with Cisco NX-OS Release 10.2(3)F, the egress filtering on subinterfaces feature supports Layer 3 subinterface egress router ACL on Cisco Nexus 9300-FX3, 9300-GX, and 9300-GX2 platform switches. For more information, see Cisco Nexus 9000 Series NX-OS Security Guide, Release 10.2(x).
FC span - supported on NPV and switchmode	Added packet capture support for FC ports, SAN port channels, and VSANs. For more information, see Cisco Nexus 9000 NX-OS System Management Configuration Guide, Release 10.2(x).
LLDP Egress Queuing TLV - supported on NPV and switchmode	Added an LLDP command to advertise egress queuing configuration in the switch. For more information, see Cisco Nexus 9000 NX-OS System Management Configuration Guide, Release 10.2(x).
VE port - supported on switchmode	Added VE port support for Cisco Nexus C9310YC-FX, C9336C-FX2-E, and C93360YC-FX2 platform switches. For more information, see Cisco Nexus 9000 NX-OS SAN Switching Configuration Guide, Release 10.2(x).
Two level timers and counters for errdisable linkflap	Added support for link-flap error-disable count configuration on all physical ports. For more information, see Cisco Nexus 9000 NX-OS Interfaces Configuration Guide, Release 10.2(x).
Log profile yaml file and Global Dictionary per Log statistics	Added support for Log-Profile YAML file and CLI to display per log statistics of each component. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.2(x).
QoS show pfc variance command support	Introduced a new CLI '**qos show pfc variance**' to compare PFC values in software with hardware values and lists the differences, if any. For more information, see Cisco Nexus 9000 Series NX-OS Quality of Service Configuration Guide, Release 10.2(x).
Dynamic CoPP support	Added Dynamic/egress CoPP support on Nexus 93180YC-EX, Nexus 93180YC-FX, Nexus 93240YC-FX2, Nexus 93360YC-FX2, Nexus 9336C-FX2, Nexus 9336C-FX2-E,

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Enhanced Features	
Feature	**Description**
	Nexus 93180YC-FX3, N9K-C9316D-GX, N9K-C93600CD-GX, Nexus 9364C-GX, N9K-C9332D-GX2B, Nexus 9364C and Nexus 9332C platform switches. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.2(x).
Syslog needed for excessive ip redirects	Added support for printing syslog when IP redirect messages are triggered. For more information, see Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 10.2(x).
FEX fabric PO Consistency Checker	Added FEX fabric PO Consistency Checker CLIs and supported platform switches. For more information, see Cisco Nexus 9000 Series NX-OS Troubleshooting Guide, Release 10.2(x).
SPAN-to-CPU	Added SPAN-to-CPU with ACL filtering support for N9K-X9624D-R2 line card. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.2(x).
The link debounce time command support	Added support for '**link debounce time**' command on N9K-C9364C, N9K-C93300YC-FX2, N9K-C93240YC-FX2, N9K-C93240YC-FX2-Z, N9K-X97160YC-EX, N9K-C9316D-GX, N9K-C93600CD-GX, N9K-C9364C-GX, N9K-C9232C, N9K-C93180YC-EX, N9K-C93180YC-EXU, N9K-C93180YC-EX-24, N9K-C93180YC-FX3S, N9K-C93180YC-FX3, N9K-C93108TC-FX3P, N9K-X9716D-GX, N9K-X9732C-FX, N9K-C9336C-FX2. For more information, see Cisco Nexus 9000 NX-OS Interfaces Configuration Guide, Release 10.2(x).
Switchport isolate feature on 144 ports on -R series	Added Switchport Isolate feature support on N9K-X9636C-R, N9K-X9636Q-R, N9K-X9636C-RX, N9K-X96136YC-R switches. For more information, see Cisco Nexus 9000 Series NX-OS Verified Scalability Guide, Release 10.2(3)F.
Enhanced upgrade history logging	Introduced **show upgrade history details** command which displays user login details. For more information, see Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 10.2(x).
Support for ePBR L2 on access port	Added support to enable Production interfaces as Access Port. For more information, see Cisco Nexus 9000 Series NX-OS ePBR Configuration Guide, Release 10.2(x).
Enhancement on the config diff utility	Added new CLIs to perform integrity check of candidate configurations. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.2(x).
VXLAN with GRE	Added support for VXLAN and GRE co-existence on Cisco Nexus 9300 EX/FX/FX2/FX3/GX/GX2 switches, and N9K-C93108TC-FX3P, N9K-C93180YC-FX3, N9K-X9716D-GX switches. For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.2(x).
Hardware SUDI for NXAPI/NGINX	This feature provides a secure way of authenticating to a device by using Secure Unique Device Identifier (SUDI). For more information, see Cisco Nexus 9000 Series NX-OS Programmability Guide,

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Enhanced Features	
Feature	**Description**
	Release 10.2(x).
Scale Enhancements	For Cisco NX-OS Release 10.2(3)F Scale Enhancements, see Cisco Nexus 9000 Series NX-OS Verified Scalability Guide, Release 10.2(3)F.
MACsec support	Added MACsec support on Cisco N9K-C9364D-GX2A (on ports 1-16) and Cisco N9K-C9348D-GX2A platform switches. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.2(x).

Hardware Features

The following hardware are supported in Cisco NX-OS Release 10.2(3)F:

- Cisco Nexus 9348D-GX2A switch with 48p 40/100/400-Gbps QSFP-DD ports and 2p 1/10G/10G SFP+ ports
    - Cisco Nexus 9348D-GX2A requires MacSec license.
- Cisco Nexus 9364D-GX2A switch with 64p 400/100-Gbps QSFP-DD ports and 2p 1/10 SFP+ ports
- The Cisco Nexus 9364D-GX2A switch (N9K-C9364D-GX2A) is a 2-rack unit (RU), fixed-port switch designed for deployment in data centers.

  This switch includes the following ports:
    - 400-Gigabit QSFP-DD ports (64)
    - 10-Gigabit SFP+ ports (2)
    - Management ports (one RJ-45 port and one SFP port)
    - Console port
    - USB port

Note: Dust covers (NXA-ACC-QDD-DC) are suggested for unused ports, to protect the connectors and help divert airflow for thermal dispensation.

This switch includes the following high power optics and MACsec:

- 16 ports of MACsec with no ports of 20-W optics
- 8 ports of MACsec with 8 ports of 20-W optics
- No ports of MACsec with 16 ports of 20-W optics

Note: For this switch, 20-W optics can go in any of the 32 odd numbered QSFP-DD ports.

This switch includes the following user-replaceable components:

- Fan modules (four) with the following airflow choices:
    - Port-side intake fan module with burgundy coloring (NXA-FAN-160CFM-PI)

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Note: If a fan fails, the other fans are automatically increased to 100% capacity to compensate. If two fans fail, then multi fan failure policy kicks in, the switch will issue a warning, and power down in 2 minutes.

- Power supply modules (two—One for operations and one for redundancy [1+1]) with the following choices:
  - 3200-W port-side intake AC/HVDC power supply with burgundy coloring (NXA-PAC-3200W-PI)
  - 3200-W port-side intake DC/HVDC power supply with burgundy coloring (NXA-PDC-3200W-PI)

Beginning with Cisco NX-OS Release 10.2(3)F, the following ports are supported:

- 48 x 100M/1 GBASE-T + 4 x 10/25G SPF28 + 2 x 40/100 G QSFP28 is supported
- QSFP-100G-LR4-S — 100GBASE LR4 QSFP Transceiver, 10km over SMF

For details on transceivers and cables that are supported by a switch, see the Transceiver Module (TMG) Compatibility Matrix.

Unsupported Features on N9K-C92348GC

Beginning with Cisco NX-OS Release 10.1(1), the following features are not supported on N9K-C92348GC.

- VXLAN
- SW/HW Telemetry
- NetFlow/Analytics
- iCam
- PTP
- NX-SDK
- MTX (device, gRPC, infra, netconf, restconf, telemetry)

Release Image

In Cisco NX-OS Release 10.2(3)F, the following two 64-bit images are supported:

- The 64-bit Cisco NX-OS image filename that begins with " nxos64-cs" (for example, nxos64-cs.10.2.3.F.bin). This image is supported on Cisco Nexus 9000 -EX,-FX,-FX2,-FX3,-GX series modular switches, N9K-C9364C and N9K-C9332C switch, and Cisco Nexus 9000 series fixed switches.
- The 64-bit Cisco NX-OS image filename that begins with " nxos64-msll" (for example, nxos64-msll.10.2.3.F.bin). This image is supported on Cisco Nexus 9000 -R and -R2 series modular switches.

The 32-bit image is no longer supported.

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Open Issues

Bug ID	Description
CSCvz75894	Headline: N9500-R/N3600-R hardware application counters may get corrupted. Symptoms: N9500-R/N3600-R running 9.3(x) version of converged code may experience hardware counter corruption causing specific application counters to show incorrect information. Workarounds: Reload will clear the issue but the issue can resurface.
CSCwb30246	Headline: N9500-R/N3600-R CoPP incorrectly matches fragmented UDP packet with UDP PTP port payload as PTP pkt Symptoms: N9500-R/N3600-R running 9.3.x or 10.2.x version of code matches incorrectly by CoPP redirect class mcast/ucast UDP fragmented packets with UDP PTP ports payload (319/320) as PTP packets. Workarounds: None
CSCwc21903	Headline: Device yang JSON ON_CHANGE snapshot is returned in flattened format rather than aggregated format Symptoms: In Cisco NX-OS Release 10.2(3)F, the on_change snapshot for yang paths is in flattened format instead of aggregated format. In Cisco NX-OS Release 10.2(2)F, this was in aggregated format. Workarounds: Use GPB as encoding.
CSCwe67205	Headline: Credit Loss Recovery is not triggered for FC interface with no transmit credits. Symptom: A Fibre Channel interface that stays at 0 transmit credits is not recovered by the Credit Loss Recovery agent. Workaround: If the interface has **switchport ignore bit-errors** configured, then remove it with the **no switchport ignore bit-errors** interface configuration command.
CSCwe53655	Headline: Revert reserved MAC blocking behavior for VRRP macs on SVIs Symptoms: User is not able to configure VRRP VMAC on SVI interfaces. Workarounds: None.
CSCwh50989	Headline: Custom COPP causing transit traffic to be punted to the CPU on Nexus 9300-GX2 Symptoms: When custom-COPP policy contains ACL rules which match on Layer 4 destination or source port, transit traffic also hits the COPP and the packets are copied to CPU. This causes duplication of traffic as CPU also routes the copied packets to the destination. Workarounds: Custom COPP policy using src/dst match mitigates punt for transit traffic.

Resolved Issues

Bug ID	Description
CSCwa31486	Headline: N9300 BFD session over SVI/L2 sends packets out on incorrect L2 port. Symptoms: BFD session on SVI/L2 does not come up. Workarounds: N/A
CSCwa59421	Headline: N9300 NAT TS is missing t'shooting required output. Symptoms: N9300 running 9.3x version of code is missing 'show ip nat translation verbose internal-

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Bug ID	Description
	detail' output which is required to t'shooting NAT issues as all important 'nat event-history event' messages are referencing " Entry-id" which is included only in this output and not in 'show ip nat translation verbose' which is already part of 'show tech-support nat' output. Workarounds: None
CSCwb11648	Headline: N9Kv: arp-sup command error due to tcam size lost after reload Symptoms: There is a breakage/issue on N9Kv that “tcam region arp-ether” command is lost upon reboot and “suppress-arp” command cannot be executed after reload on N9Kv. Workarounds: Apply below commands right after every reload, switch(config)# hardware access-list tcam region racl 512 switch(config)# hardware access-list tcam region arp-ether 256 double-wide Then (without reload) enable/disable suppress-arp command, that should successfully work, switch (config)# int nve1 switch (config-if-nve)# member vni 4 switch (config-if-nve-vni)# suppress-arp
CSCwa09450	Headline: SNMP memory allocation failure leads to a crash Symptoms: We see high values of RLIMIT and Total for the SNMP process, which leads to a crash Workarounds: There are no workarounds at the moment.The issue is being investigated.
CSCvr01780	Headline: N9K-SNMP: snmp use-ipv4acl cmd accepted eventhough the associated snmp-user is not configured. Symptoms: Command used for filtering SNMP request is being accepted even when SNMP user is not configured. Workarounds: Cosmetic issue. No impact to management tools.
CSCvt43029	Headline: DME: Tacacs type-6 key is not reflected on DME. Hence, config out-of-sync between CLI/DME Symptoms: In CLI, tacacs shared key is converted from type-7 to type-6, which is expected. But, in DME still maintains tacacs shared key as " type-7. Hence, config out-of-sync between CLI/DME. Workarounds: None
CSCvy29359	Headline: N9K || erspan-destination || Inner DSCP rewrite to 0 on erspan-destination Symptoms: ERSPAN-destination rewrites the DSCP value of the internal packet to 0. This only seems to happen for ERSPAN-destination session. If you have an ERSPAN-source session only (where SPAN traffic is being directly sent to the monitoring device) the DSCP values are retained. Workarounds: A possible workaround is to use the " ip dscp" value on the source of the ERSPAN-session configuration. The limitation of this workaround is that it will rewrite the DSCP value (for the internal packet) for all packets irrespective of the original TOS / DSCP value
CSCvz39153	Headline: N9500-R/N3600 break link-local control-plane adj for connected L3 devices Symptoms: N9500-R/N3600 running 9.3.8 version of code breaks link-local control-plane adjacencies (e.g. OSPF) for connected L3 devices. When igmp snooping is disabled, link-local control-plane works but this prevents multicast traffic to be forwarded as pim cannot be enabled on SVI with disabled igmp snooping for respective vlan. Workarounds: None
CSCvz44412	Headline: N9K and N3K Switch 100Gig Interface won't come up after interface Flap

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Bug ID	Description
	Symptoms: ++ Interface doesn't come Up after the shut/unshut on the Nexus 9500 With the LC N9K-X9736C-FX++ SFP used is the QSFP 40/100G-SRBD, Link between the Nexus 9500 and Nexus 3408 Workarounds: ++ Apply speed to 100Gig and disable auto negotation++ Shutdown the interfaces on both the sides, unshut the interface on N9K first and later on 3k
CSCvz65993	Headline: tahoe0 brought down resulting in inband connectivity failure Symptoms: - In releases prior to 9.3.x:tahoe0 interfaces go down or not pass traffic rendering the switch unresponsive. One or more software components can fail such as diagnostic modules, L2ACL diagnostics, loopback test, kernel errors etc.- In releases after 9.3.x:the switch reloads due to existing GOLD enhancements that can detect L2ACL diag failure and resets it. Workarounds: If the device hangs, instead of crashing on its own: reload the device to clear the issue.
CSCvz94723	Headline: N9300-FX fails to apply unique egress QoS policy to all L2 physical interfaces Symptoms: N9300-FX fails to apply unique egress QoS policy to more than 31 physical interfaces. Workarounds: N/A
CSCwa05204	Headline: syslogd - Add new CLI to allow SSL connection on OCSP related errors Symptoms: Logs seen:%SYSLOG-4-SYSTEM_MSG: tls_verify_cb: OCSP responder not reachable. Disconnecting! - syslogd Switch unable to connect syslog server Workarounds: Disable OCSP from server end.
CSCwa10762	Headline: NX-API: NX-API response for empty chunk output hangs before timing out Symptoms: For 'cli_show_ascii' type in chunk mode, any show cli query that has empty output, the NXAPI response hangs and eventually times out, instead of giving an empty response. Workarounds: Omit the chunking option
CSCwa18642	Headline: Unable to make configuration changes -Failed to send SUA command request Symptoms: Can't make configuration changes.Output from the command " show system internal mts buffers summary" , show the process " PPM, SAP 489" stuck in the queue. Workarounds: Reload
CSCwa21227	Headline: Nexus generating General IGMP leave when flapping STP Edge VPC member port Symptoms: When VPC operating as STP Edge port is being flapped, we observe TCN trigger in the IGMP events, resulting in temporary multicast drop Workarounds: None
CSCwa25377	Headline: psskmalloc: aclqos: error! malloc for km_p failed Symptoms: The memory allocation is failing for “aclqos” time to time when a user is trying to do some config changes. Workarounds: 1. Free up the memory using the command sequence provided, or++ Get access to bash shell++ Go to folder proc/sys/vm++ Monitor memory available from cache++ Change value with " echo 3 > drop_caches" ++ Monitor memory again with command cat/proc/meminfo |egrep -I -e " MemFree|MemAvail" Example:=======bash-4.3# cd /proc/sys/vmbash-4.3# cat /proc/meminfo | egrep -i -e 'memfree|memavail'MemFree: 16154452 kBMemAvailable: 17060220 kBbash-4.3# echo 3 > drop_cachesbash-4.3# cat /proc/meminfo | egrep -i -e 'memfree|memavail'MemFree: 16640264 kBMemAvailable: 17063700 kB2. Reload the switch.switch# reloadThis command will reboot the system. (y/n)? [n] y
CSCwa27750	Headline: Nexus stops responding to SNMP requests for CISCO-VTP-MIB::vlanTrunkPortTable Symptoms: Observed when Performing SNMP Walk from Nexus 9300 Device and MIB stopped

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Bug ID	Description
	working. SNMP Walk returned " No Such Object available on this agent at this OID" Workarounds: As a workaround, 1. Reload the Switch2. Kill or reload the snmp-daemon
CSCwa29179	Headline: VXLAN blackholing after ND-ISSU Symptoms: After a nondisruptive ISSU of a VXLAN VTEP, there's an extremely small chance that the VTEP can blackhole transit VXLAN traffic.To confirm that the problem has been encountered, run " show system internal orib clients" , the " nve" client would be missing in the output.Once the issue is hit, client interactions via ORIB will get impacted and can cause traffic loss. Workarounds: Recovery will be to reload the box.
CSCwa30060	Headline: Process swtele not running after initial bootup (no crash file generated) Symptoms: Switch boots up. User goes to configure Cloud Scale Telemetry feature. Finds that swtele feature is not running:looking at ps shows that swtele is not running:```plaintextslfsw20-s00-1# run bash ps aux | grep swteleslfsw20-s00-1# < ----- Process is not runningNormal switch output showing process is running:slfsw20-s00-2# run bash ps aux | grep swteleroot 9702 0.1 0.4 1433180 112564 ? Ssl Apr30 188:58 /lc/isan/bin/swtele --tcp-timeout 0 --ip-addr 127.1.2.1slfsw20-s00-2#Looks like swtele process never started. Workarounds: Reload the switch. Process starts up normally next time.
CSCwa31915	Headline: gnmi onchange notifications not received for management interface in the openconfig-interfaces model Symptoms: on-change notifications are not received when user subscribes to the following openconfig-interfaces model path through gNMI, to receive on-change notifications for management interface description/interfaces/interface[name=mgmt0]/state/description Workarounds: The same information can be obtained by subscribed to the corresponding device yang path System/mgmt-items/MgmtIf-list\[id=mgmt0\]/descr
CSCwa35108	Headline: stale nexthop entry stuck in route table if VRF leaking Symptoms: Some OSPF routes are advertised in the BGP which are leaked to different VRF, once the OSPF routes reconverge in the sourcing VRF, those route will stuck in destination VRF and mark as (stale) in the VRF Test. Workarounds: Clear the route in the routing table
CSCwa38786	Headline: kmalloc failures observed in dmesg due to excessive fragmentation Symptoms: Kmalloc failures seen while allocating memoryLogs: usdk_process_sse_call:kmalloc failed for size 119820 sse_data_size 119808. Workarounds: Reload of the switch
CSCwa49851	Headline: Vxlan nve ipv6 peer address returned by snmpwalk in ipv4 format. Symptoms: Snmpwalk shows the ipv6 peer-IP as ipv4 address which is incorrect. Workarounds: None
CSCwa50172	Headline: oc bgp: afi-safis container is missing for bgp neighbor with by inherit a template Symptoms: When we request the l2vpn evpn neighbor state, using the query path as /network-instances/network-instance/protocols/protocol/bgp/neighbors/neighbor/afi-safis/afi-safi/state/prefixes, the response returned has missing afi-safi's container corresponding to the neighbor that inherited the template. Workarounds: configure the address-family under neighbor, for example: neighbor 99.99.99.99 inherit peer POD update-source loopback0 address-family ipv4 unicast address-family ipv6 unicast address-family l2vpn evpn

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Bug ID	Description
CSCwa56859	Headline: Crash on N9K in VPC with port-security enabled on FEX interfaces Symptoms: Crash in eth-port-sec service.%SYSMGR-2-SERVICE_CRASHED: Service " eth-port-sec" (PID <>) hasn't caught signal 11 (core will be saved).# show coresVDC Module Instance Process-name PID Date(Year-Month-Day Time)--- ------ -------- --------------- -------- ---- ----------1 1 1 eth-port-sec <> <> Workarounds: Remove unsupported configuration.
CSCwa58522	Headline: FEX attached to Nexus 9k running 9.3.8 sends malformed LLDP packets out of host interfaces Symptoms: A FEX running 9.3(8) with LLDP enabled sends malformed LLDP packets out of the host interfaces (HIFs). These packets are lacking the 'End of LLDPDU' field. Workarounds: There is currently no known workaround for this issue.
CSCwa58935	Headline: Radius Daemon crash when pointer is not accessible Symptoms: Radius Daemon may crash when trying to authenticate, the below logs may be seen.<pre>----- reset reason for module 1 (from Supervisor in slot 1) ---1) At 181733 usecs after Mon Jan 3 12:49:39 2022 Reason: Reset triggered due to HA policy of Reset Service: Radius Daemon hap reset Version: 9.3(8)%SYSMGR-2-SERVICE_CRASHED: Service " Radius Daemon" (PID *) hasn't caught signal 6 (core will be saved).</pre> Workarounds: NA
CSCwa60182	Headline: N9300-EX/FX may clear active NAT tcp session hw entry when other NAT tcp session sends tcp fin-ack Symptoms: Active NAT tcp session may get disconnected unexpectedly. Workarounds: While carving the TCAM region for TCP-NAT, increase the size by couple of more entries than what is required and this lessens the probability of the issue happening.
CSCwa68975	Headline: In dual-homed fex topology, traffic loss lasts up to 20s when fex online after reloading parent N9k Symptoms: In the configuration of Dual-Homed FEX, IXIA equivalent to the host is connected to FEX 101/102. When the parent unit 1 (93180YC-FX) is reloaded, traffic loss of up to 20 seconds occurs when FEX becomes online again. Workarounds: None
CSCwa88247	Headline: show tech detail/tac-pac never collecting " show tech-support usd-all" Symptoms: " show tech-support usd-all" might not be collected as part of " show tech detail" / " tac-pac" . The " show tech" file will instead display:`show tech-support usd-all`Another show tech is running, please try again later`show tech-support forwarding l3 unicast detail`... Workarounds: None
CSCwb23345	Headline: N9300-FX fails to apply unique egress QoS policy to all L2 physical interfaces Symptoms: N9300-FX (any PID with one asic slice supporting all physical interfaces) fails to apply unique egress QoS policy to police egress traffic to specific rate to all L2 physical interfaces due to lack of ACL labels. Workarounds: None
CSCwb41119	Headline: Single frame may not trigger MAC learn, causing prolonged post-routed packet drops Symptoms: Learning of MAC addresses may be delayed when a burst of frames triggering MAC learned is received.

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Bug ID	Description
	Workarounds: Possible workarounds that may be considered:1. Clear ARP table (if device has the SVI) - clearing ARP table manually will trigger re-ARP which should help populating MAC table.2. Trigger end hosts to send some frames, eg: * configure IP SLA on the switch to test connectivity to host, * ping broadcast IP,
CSCvz80126	Headline: Interfaces in Warp SPAN destination group do not go down when link fails Symptoms: A physical interface associated with a Warp SPAN destination group on a Nexus 3548 switch may not transition into a down/down state when the link connected to the physical interface fails down (such as due to the remote station bringing the link down by not transmitting signal, a cable or transceiver being removed from the interface, etc.) Workarounds: Administratively flapping the affected physical interface with the "shutdown" and "no shutdown" interface configuration commands may resolve this issue. An example of this is shown here.<pre>switch#
CSCvx06215	Headline: Traceback: vtp hap reset due to malloc Symptoms: Nexus crash due to HA policy of Reset Service: vtp hap reset Workarounds: none
CSCwb31158	Headline: Cisco Nexus 9000 FX3 Crashes upon "no shutdown" of 25G Interface Symptoms: Running "no shutdown" on a 25G copper interface will trigger a crash in the tahusd process. Workarounds: None

Known Issues

Bug ID	Description
CSCwi99525	On Cisco Nexus N2K-C2348TQ HIFs fail to utilize redundant Port-Channel links, to NIF, during link failover events.

Device Hardware

The following tables list the Cisco Nexus 9000 Series hardware that Cisco NX-OS Release 10.2(3)F supports. For additional information about the supported hardware, see the Hardware Installation Guide for your Cisco Nexus 9000 Series device.

Table 1. Cisco Nexus 9500 Switches

Product ID	Description
N9K-C9504	7.1-RU modular switch with slots for up to 4 line cards in addition to two supervisors, 2 system controllers, 3 to 6 fabric modules, 3 fan trays, and up to 4 power supplies.
N9K-C9508	13-RU modular switch with slots for up to 8 line cards in addition to two supervisors, 2 system controllers, 3 to 6 fabric modules, 3 fan trays, and up to 8 power supplies.
N9K-C9516	21-RU modular switch with slots for up to 16 line cards in addition to two supervisors, 2 system controllers, 3 to 6 fabric modules, 3 fan trays, and up to 10 power supplies.

Table 2. Cisco Nexus 9500 Cloud Scale Line Cards

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Product ID	Description	Maximum Quantity		
		Cisco Nexus 9504	Cisco Nexus 9508	Cisco Nexus 9516
N9K-X9716D-GX	Cisco Nexus 9500 16-port 400-Gigabit Ethernet QSFP line card	4	8	N/A
N9K-X9736C-FX	Cisco Nexus 9500 36-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X9788TC-FX	Cisco Nexus 9500 48-port 1/10-G BASE-T Ethernet and 4-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X97160YC-EX	Cisco Nexus 9500 48-port 10/25-Gigabit Ethernet SFP28 and 4-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X9732C-FX	Cisco Nexus 9500 32-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X9732C-EX	Cisco Nexus 9500 32-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16
N9K-X9736C-EX	Cisco Nexus 9500 36-port 40/100 Gigabit Ethernet QSFP28 line card	4	8	16

Table 3. Cisco Nexus 9500 R-Series Line Cards

Product ID	Description	Maximum Quantity	
		Cisco Nexus 9504	Cisco Nexus 9508
N9K-X9636C-R	Cisco Nexus 9500 36-port 40/100 Gigabit Ethernet QSFP28 line card	4	8
N9K-X9636C-RX	Cisco Nexus 9500 36-port 40/100 Gigabit Ethernet QSFP28 line card	4	8
N9K-X9636Q-R	Cisco Nexus 9500 36-port 40 Gigabit Ethernet QSFP line card	4	8
N9K-X96136YC-R	Cisco Nexus 9500 16-port 1/10 Gigabit, 32-port 10/25 Gigabit, and 4-port 40/100 Gigabit Ethernet line card	4	8
N9K-X9624D-R2	Cisco Nexus 9500 24-port 400 Gigabit QDD line card	Not supported	8

Table 4. Cisco Nexus 9500 Cloud Scale Fabric Modules

Product ID	Description	Minimum	Maximum
N9K-C9504-FM-E	Cisco Nexus 9504 100-Gigabit cloud scale fabric module	4	5
N9K-C9504-FM-G	Cisco Nexus 9500 4-slot 1.6Tbps cloud scale	4	5

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Product ID	Description	Minimum	Maximum
	fabric module		
N9K-C9508-FM-E	Cisco Nexus 9508 100-Gigabit cloud scale fabric module	4	5
N9K-C9508-FM-E2	Cisco Nexus 9508 100-Gigabit cloud scale fabric module	4	5
N9K-C9508-FM-G	Cisco Nexus 9500 8-slot 1.6Tbps cloud-scale fabric module	4	5
N9K-C9516-FM-E2	Cisco Nexus 9516 100-Gigabit cloud scale fabric module	4	5

Table 5. Cisco Nexus 9500 R-Series Fabric Modules

Product ID	Description	Minimum	Maximum
N9K-C9504-FM-R	Cisco Nexus 9504 100-Gigabit R-Series fabric module	4	6
N9K-C9508-FM-R	Cisco Nexus 9508 100-Gigabit R-Series fabric module	4	6
N9K-C9508-FM-R2	Cisco Nexus 9508 400-Gigabit R-Series fabric module	4	6

Table 6. Cisco Nexus 9500 Supervisor Modules

Supervisor	Description	Quantity
N9K-SUP-A	1.8-GHz supervisor module with 4 cores, 4 threads, and 16 GB of memory	2
N9K-SUP-A+	1.8-GHz supervisor module with 4 cores, 8 threads, and 16 GB of memory	2
N9K-SUP-B	2.2-GHz supervisor module with 6 cores, 12 threads, and 24 GB of memory	2
N9K-SUP-B+	1.9-GHz supervisor module with 6 cores, 12 threads, and 32 GB of memory	2

Note: N9K-SUP-A and N9K-SUP-A+ are not supported on Cisco Nexus 9504 and 9508 switches with -R line cards.

Table 7. Cisco Nexus 9500 System Controller

Product ID	Description	Quantity
N9K-SC-A	Cisco Nexus 9500 Platform System Controller Module	2

Table 8. Cisco Nexus 9500 Fans and Fan Trays

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Product ID	Description	Quantity
N9K-C9504-FAN	Fan tray for 4-slot modular chassis	3
N9K-C9504-FAN2	Fan tray that supports the Cisco N9K-C9504-FM-G fabric module	3
N9K-C9508-FAN	Fan tray for 8-slot modular chassis	3
N9K-C9508-FAN2	Fan tray that supports the Cisco N9K-C9508-FM-G fabric module	3
N9K-C9516-FAN	Fan tray for 16-slot modular chassis	3

Table 9. Cisco Nexus 9500 Fabric Module Blanks with Power Connector

Product ID	Description	Minimum	Maximum
N9K-C9504-FAN-PWR	Nexus 9500 4-slot chassis 400G cloud scale fan tray power connector	1	2
N9K-C9508-FAN-PWR	Nexus 9500 4-slot chassis 400G cloud scale fan tray power connector	1	2

Table 10. Cisco Nexus 9500 Power Supplies

Product ID	Description	Quantity	Cisco Nexus Switches
N9K-PAC-3000W-B	3 KW AC power supply	Up to 4 Up to 8 Up to 10	Cisco Nexus 9504 Cisco Nexus 9508 Cisco Nexus 9516
N9K-PDC-3000W-B	3 KW DC power supply	Up to 4 Up to 8 Up to 10	Cisco Nexus 9504 Cisco Nexus 9508 Cisco Nexus 9516
N9K-PUV-3000W-B	3 KW Universal AC/DC power supply	Up to 4 Up to 8 Up to 10	Cisco Nexus 9504 Cisco Nexus 9508 Cisco Nexus 9516
N9K-PUV2-3000W-B	3.15-KW Dual Input Universal AC/DC Power Supply	Up to 4 Up to 8 Up to 10	Cisco Nexus 9504 Cisco Nexus 9508 Cisco Nexus 9516

Table 11. Cisco Nexus 9200 and 9300 Switches

Cisco Nexus Switch	Description
N9K-C9316D-GX	1-RU switch with 16x400/100/40-Gbps ports.
N9K-C9364C-GX	2-RU fixed-port switch with 64 100-Gigabit SFP28 ports.

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Cisco Nexus Switch	Description
N9K-C93600CD-GX	1-RU fixed-port switch with 28 10/40/100-Gigabit QSFP28 ports (ports 1-28), 8 10/40/100/400-Gigabit QSFP-DD ports (ports 29-36)
N9K-C9364C	2-RU Top-of-Rack switch with 64 40-/100-Gigabit QSFP28 ports and 2 1-/10-Gigabit SFP+ ports. • Ports 1 to 64 support 40/100-Gigabit speeds. • Ports 49 to 64 support MACsec encryption. Ports 65 and 66 support 1/10 Gigabit speeds.
N9K-C9332C	1-RU fixed switch with 32 40/100-Gigabit QSFP28 ports and 2 fixed 1/10-Gigabit SFP+ ports.
N9K-C9332D-GX2B	1-Rack-unit (1RU) spine switch with 32p 400/100-Gbps QSFP-DD ports and 2p 1/10 SFP+ ports.
N9k-9348D-GX2A	48p 40/100/400-Gigabit QSFP-DD ports and 2p 1/10G/10G SFP+ ports
N9k-9364D-GX2A	64p 400/100-Gigabit QSFP-DD ports and 2p 1/10 SFP+ ports
N9K-C93180YC-FX3	48 1/10/25 Gigabit Ethernet SFP28 ports (ports 1-48) 6 10/25/40/50/100-Gigabit QSFP28 ports (ports 49-54)
N9K-C93180YC-FX3S	48 1/10/25 Gigabit Ethernet SFP28 ports (ports 1-48) 6 10/25/40/50/100-Gigabit QSFP28 ports (ports 49-54)
N9K-C9336C-FX2-E	1-RU switch with 36 40-/100-Gb QSFP28 ports
N9K-C9336C-FX2	1-RU switch with 36 40-/100-Gb Ethernet QSFP28 ports
N9K-C93360YC-FX2	2-RU switch with 96 10-/25-Gigabit SFP28 ports and 12 40/100-Gigabit QSFP28 ports
N9K-C93240YC-FX2	1.2-RU Top-of-Rack switch with 48 10-/25-Gigabit SFP28 fiber ports and 12 40-/100-Gigabit Ethernet QSFP28 ports.
N9K-C93216TC-FX2	2-RU switch with 96 100M/1G/10G RJ45 ports, 12 40/100-Gigabit QSFP28 ports, 2 management ports (one RJ-45 and one SFP port), 1 console, port, and 1 USB port.
N9K-C93180YC-FX	1-RU Top-of-Rack switch with 10-/25-/32-Gigabit Ethernet/FC ports and 6 40-/100-Gigabit QSFP28 ports. You can configure the 48 ports as 1/10/25-Gigabit Ethernet ports or as FCoE ports or as 8-/16-/32-Gigabit Fibre Channel ports.
N9K-C93180YC-FX-24	1-RU 24 1/10/25-Gigabit Ethernet SFP28 front panel ports and 6 fixed 40/100-Gigabit Ethernet QSFP28 spine-facing ports. The SFP28 ports support 1-, 10-, and 25-Gigabit Ethernet connections and 8-, 16-, and 32-Gigabit Fibre Channel connections.
N9K-C93108TC-FX	1-RU Top-of-Rack switch with 48 100M/1/10GBASE-T (copper) ports and 6 40-/100-Gigabit QSFP28 ports
N9K-C93108TC-FX-24	1-RU 24 1/10GBASE-T (copper) front panel ports and 6 fixed 40/100-Gigabit Ethernet QSFP28 spine-facing ports.
N9K-C93108TC-FX3P	1-RU fixed-port switch with 48 100M/1/2.5/5/10GBASE-T ports and 6 40-/100-Gigabit QSFP28 ports

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Cisco Nexus Switch	Description
N9K-C9348GC-FXP *	Nexus 9300 with 48p 100M/1 G, 4p 10/25 G SFP+ and 2p 100 G QSFP
N9K-C92348GC-X	The Cisco Nexus 92348GC-X switch (N9K-C92348GC-X) is a 1RU switch that supports 696 Gbps of bandwidth and over 250 mpps. The 1GBASE-T downlink ports on the 92348GC-X can be configured to work as 100-Mbps, 1-Gbps ports. The 4 ports of SFP28 can be configured as 1/10/25-Gbps and the 2 ports of QSFP28 can be configured as 40- and 100-Gbps ports. The Cisco Nexus 92348GC-X is ideal for big data customers that require a Gigabit Ethernet ToR switch with local switching.
N9K-C93180YC-EX	1-RU Top-of-Rack switch with 48 10-/25-Gigabit SFP28 fiber ports and 6 40-/100-Gigabit QSFP28 ports
N9K-C93180YC-EX-24	1-RU 24 1/10/25-Gigabit front panel ports and 6-port 40/100 Gigabit QSFP28 spine-facing ports
N9K-C93108TC-EX	1-RU Top-of-Rack switch with 48 10GBASE-T (copper) ports and 6 40-/100-Gigabit QSFP28 ports
N9K-C93108TC-EX-24	1-RU 24 1/10GBASE-T (copper) front panel ports and 6 40/100-Gigabit QSFP28 spine facing ports.

***Note:** For N9K-C9348GC-FXP the PSU SPROM is not readable when the PSU is not connected. The model displays as " UNKNOWN" and status of the module displays as " shutdown."

Table 12. Cisco Nexus 9200 and 9300 Fans and Fan Trays

Product ID	Description	Quantity	Cisco Nexus Switches
NXA-FAN-160CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	3	9364C [1] 93360YC-FX2
NXA-FAN-160CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	3	9364C **Error! Reference source not found.**[1]**Error! Reference source not found.Error! Reference source not found.Error! Reference source not found.Error! Reference source not found.** 93360YC-FX2**Error! Reference source not found.Error! Reference source not found.**
NXA-FAN-160CFM2-PE	Fan module with port-side exhaust airflow (blue coloring)	4	9364C-GX
NXA-FAN-160CFM2-PI	Fan module with port-side intake airflow (burgundy coloring)	4	9364C-GX
NXA-FAN-30CFM-B	Fan module with port-side intake airflow (burgundy coloring)	3	93108TC-EX 93108TC-FX **Error! Reference source not found.**[1] 93180YC-EX

[1] For specific fan speeds see the Overview section of the Hardware Installation Guide.

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Product ID	Description	Quantity	Cisco Nexus Switches
			93180YC-FX Error! Reference source not found.[1] 9348GC-FXP Error! Reference source not found.[1]
NXA-FAN-30CFM-F	Fan module with port-side exhaust airflow (blue coloring)	3	93108TC-EX 93108TC-FX Error! Reference source not found.[1] 93180YC-EX 93180YC-FX Error! Reference source not found.[1] 9348GC-FXP
NXA-FAN-35CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	4 6	92300YC Error! Reference source not found.[1] 9332C Error! Reference source not found.[1] 93180YC-FX3S [2] 93180YC-FX3 93108TC-FX3P 9336C-FX2-E 9316D-GX 93600CD-GX
NXA-FAN-35CFM-PI	Fan module with port-side intake airflow (burgundy coloring) Fan module with port-side exhaust airflow (blue coloring)	4 6 6	92300YC [1] 9332C [1] 93180YC-FX3S [2] 93180YC-FX3 93108TC-FX3P 9316D-GX 93600CD-GX 9336C-FX2-E
NXA-FAN-65CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	3	93240YC-FX2 [1] 9336C-FX2 [1]
NXA-FAN-65CFM-PI	Fan module with port-side exhaust airflow (burgundy coloring)	3	93240YC-FX2 9336C-FX2 [1]

Table 13. Cisco Nexus 9200 and 9300 Power Supplies

Product ID	Description	Quantity	Cisco Nexus Switches
NXA-PAC-500W-PE	500-W AC power supply with port-side exhaust airflow (blue coloring)	2	93108TC-EX 93180YC-EX

[2] This switch runs with +1 redundancy mode so that if one fan fails, the switch can sustain operation. But if a second fan fails, this switch is not designed to sustain operation. Hence before waiting for the major threshold temperature to be hit, the switch will power down due to entering the fan policy trigger command.

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Product ID	Description	Quantity	Cisco Nexus Switches
			93180YC-FX
NXA-PAC-500W-PI	500-W AC power supply with port-side intake airflow (burgundy coloring)	2	93108TC-EX 93180YC-EX 93180YC-FX
NXA-PAC-650W-PE	650-W power supply with port-side exhaust (blue coloring)	2	92300YC 93180YC-FX3S 93108TC-EX 93180YC-EX 93180YC-FX3
NXA-PAC-650W-PI	650-W power supply with port-side intake (burgundy coloring)	2	92300YC 93180YC-FX3S 93108TC-EX 93180YC-EX 93180YC-FX3
NXA-PAC-750W-PE	750-W AC power supply with port-side exhaust airflow (blue coloring) 1	2	9336C-FX2 9336C-FX2-E 9332C 93240YC-FX2
NXA-PAC-750W-PI	750-W AC power supply with port-side intake airflow (burgundy coloring) 1	2	9336C-FX2 9336C-FX2-E 9332C 93240YC-FX2
NXA-PAC-1100W-PE2	1100-W AC power supply with port-side exhaust airflow (blue coloring)	2	93240YC-FX2 9332C 9316D-GX 9336C-FX2 9336C-FX2-E 93600CD-GX
NXA-PAC-1100W-PI2	1100-W AC power supply with port-side intake airflow (burgundy coloring)	2	93240YC-FX2 9332C 9316D-GX 9336C-FX2 9336C-FX2-E 93600CD-GX
NXA-PAC-1100W-PI	Cisco Nexus 9000 PoE 1100W AC PS, port-side intake	2	93108TC-FX3P
NXA-PAC-1100W-PE	Cisco Nexus 9000 PoE 1100W AC PS, port-side exhaust	2	93108TC-FX3P
NXA-PAC-1900W-PI	Cisco Nexus 9000 PoE 1900W AC PS, port-side intake	2	93108TC-FX3P
NXA-PAC-1200W-PE	1200-W AC power supply with port-side exhaust airflow (blue coloring)	2	93360YC-FX2 9364C
NXA-PAC-1200W-PI	1200-W AC power supply with port-side intake airflow (burgundy coloring)	2	93360YC-FX2 9364C
N9K-PUV-1200W	1200-W Universal AC/DC power supply with bidirectional airflow (white coloring)	2	92300YC 93108TC-EX 93108TC-FX 93360YC-FX2

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Product ID	Description	Quantity	Cisco Nexus Switches
			93180YC-FX3S 93180YC-EX 93180YC-FX 9364C
NXA-PDC-930W-PE	930-W DC power supply with port-side exhaust airflow (blue coloring)	2	93108TC-EX 93180YC-EX 93360YC-FX2 93180YC-FX3S 93180YC-FX 9364C
NXA-PDC-930W-PI	930-W DC power supply with port-side intake airflow (burgundy coloring)	2	93108TC-EX 93180YC-EX 93360YC-FX2 93180YC-FX3S 93180YC-FX 9364C
NXA-PDC-1100W-PE	1100-W DC power supply with port-side exhaust airflow (blue coloring)	2	93240YC-FX2 93600CD-GX 9316D-GX 9332C 9336C-FX2 9336C-FX2-E
NXA-PDC-1100W-PI	1100-W DC power supply with port-side intake airflow (burgundy coloring)	2	93240YC-FX2 93600CD-GX 9316D-GX 9332C 9336C-FX2 9336C-FX2-E
UCSC-PSU-930WDC	930-W DC power supply with port-side intake (green coloring)	2	93108TC-EX 93180YC-EX
UCS-PSU-6332-DC	930-W DC power supply with port-side exhaust (gray coloring)	2	93108TC-EX 93180YC-EX
NXA-PHV-1100W-PE	1100-W AC power supply with port-side exhaust airflow (blue coloring)	2	93240YC-FX2 9336C-FX2
NXA-PHV-1100W-PI	1100-W AC power supply with port-side intake airflow (burgundy coloring)	2	93240YC-FX2 9336C-FX2
NXA-PAC-2KW-PE	2000-W AC power supply with port-side exhaust airflow (blue coloring)	2	9364C-GX
NXA-PAC-2KW-PI	2000-W AC power supply with port-side intake airflow (burgundy coloring)	2	9364C-GX
NXA-PDC-2KW-PE	2000-W DC power supply with port-side exhaust airflow (blue coloring	2	9364C-GX
NXA-PDC-2KW-PI	2000-W DC power supply with port-side intake airflow (burgundy coloring)	2	9364C-GX
N2200-PAC-400W	400-W AC power supply with port-side exhaust airflow (blue coloring)	2	92348GC-X

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Product ID	Description	Quantity	Cisco Nexus Switches
N2200-PAC-400W-B	400-W AC power supply with port-side intake airflow (burgundy coloring)	2	92348GC-X
N2200-PDC-350W-B	350-W DC power supply with port-side intake airflow	2	92348GC-X
N2200-PDC-400W	400-W DC power supply with port-side exhaust airflow (blue coloring)	2	92348GC-X

Compatibility Information

Fabric Module and Line Card compatibility details are listed below.

Table 14. Cisco Nexus 9500 Cloud Scale Line Cards

Product ID	N9K-C9504-FM-G	N9K-C9508-FM-G	N9K-C9504-FM-E	N9K-C9508-FM-E	N9K-C9508-FM-E2	N9K-C9516-FM-E2
N9K-X9716D-GX	4	4	No	No	No	No
N9K-X9736C-FX	5	5	5	5	5	5
N9K-X97160YC-EX	4	4	4	4	4	4
N9K-X9788TC-FX	4	4	4	4	4	4
N9K-X9732C-EX	4	4	4	4	4	4
N9K-X9736C-EX	4	4	4	4	4	4
N9K-X9732C-FX	4 5 (n+1 redundancy)	4 5 (n+1 redundancy)	4 5 (n+1 redundancy)	4 5 (n+1 redundancy)	4 5 (n+1 redundancy)	4 5 (n+1 redundancy)

Table 15. Cisco Nexus 9500 R-Series Line Cards

Product ID	N9K-C9504-FM-R	N9K-C9508-FM-R
N9K-X9636C-RX	6	6
N9K-X9636Q-R	4 6 (n+2 redundancy)	4 6 (n+2 redundancy)
N9K-X9636C-R	5 6 (n+1 redundancy)	5 6 (n+1 redundancy)
N9K-X96136YC-R	6	6

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Table 16. Cisco Nexus 9500 R2-Series Line Cards

Product ID	N9K-C9508-FM-R2
N9K-X9624D-R2	6

Optics

To determine which transceivers and cables are supported by a switch, see the Transceiver Module (TMG) Compatibility Matrix. To see the transceiver specifications and installation information, see the Install and Upgrade Guides.

Cisco Nexus Dashboard Insights

Cisco NX-OS Release 10.2(3)F supports the Nexus Dashboard Insights on Cisco Nexus 9200, 9300-EX, 9300-FX, 9300-FX2, and 9300-FX3 platform switches and 9500 platform switches with -EX/FX/GX line cards. For more information, see the Cisco Nexus Insights documentation.

Upgrade and Downgrade

To perform a software upgrade or downgrade, follow the instructions in the Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 10.2(x). For information about an In Service Software Upgrade (ISSU), see the Cisco NX-OS ISSU Support Matrix.

Related Content

This document describes and provides links to the user documentation available for Cisco Nexus 9000. To find a document online, use one of the links in this section.

Document	Description
Cisco Nexus 9000 Series Switches	Cisco Nexus 9000 Series documentation
Cisco NX-OS Software Strategy and Lifecycle Guide	Cisco NX-OS Software Release and Image-naming Convention
Cisco Nexus 9000 and 3000 Series NX-OS Switch License Navigator	Cisco Nexus 9000 and 3000 Series NX-OS Switch License Navigator
Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide, Release 10.2(x)	Cisco Nexus 9000 Series Software Upgrade and Downgrade Guide
Cisco Nexus 9000 Series FPGA/EPLD Upgrade Release Notes, Release 10.2(4)	Cisco Nexus 9000 Series FPGA/EPLD Upgrade Release Notes
Cisco Nexus NX-API Reference	Cisco Nexus 3000 and 9000 Series NX-API REST SDK User Guide and API Reference
ftp://ftp.cisco.com/pub/mibs/supportlists/nexus9000/Nexus9000MIBSupportList.html	Cisco NX-OS Supported MIBs
Cisco Nexus 9000 Series Switch FEX Support Matrix	Supported FEX modules

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Cisco NX-OS Licensing Guide and Cisco Nexus Smart Licensing Using Policy User Guide	Licensing Information

When you downgrade from Cisco NX-OS Release 10.2(3)F to an earlier release, the features that use the ACI+NX-OS Essentials, Advantage, and add-on licenses or the Hardware Streaming Telemetry license continue to work in honor mode in the downgraded version. In addition, the output of the show license usage command continues to include entries for these unsupported licenses.

For more information, see the Cisco NX-OS Licensing Guide.

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