Cisco Nexus 9000 Series NX-OS Release Notes

Release 10.5(2)F

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.

Introduction

This document describes the features, issues, and limitations of Cisco NX-OS software Release 10.5(2)F for use on the Cisco Nexus 9000 Series switches.

Date	Description
November 27, 2024	Release 10.5(2)F became available.

Software Features

New Software Features

Product Impact	Feature	Description
Feature Set	Multi-Node and Multi-Site Service Chaining	Beginning with Cisco NX-OS Release 10.5(2)F, ePBR multi-node and multi-site service-chaining is supported with Group Policy Options. ePBR multi-node service-chains and multi-site features are supported with sources and destinations in different VRF contexts. For more information, see Cisco ePBR Configurations Guide, Release 10.5(x).
	Next-hop resolution using VRF	Beginning with Cisco NX-OS Release 10.5(2)F, you can specify the VRF for next-hop resolution through policy configuration (such as RPM/ACL), by using the switch(config-route-map)# **set vrf** <*vrf-name*> command. For more information, see Cisco Nexus 9000 Series NX-OS Unicast Routing Configuration Guide, Release 10.5(x).
	Support for Layer 3 ePBR policies	Beginning with Cisco NX-OS Release 10.5(2)F, support for Layer 3 ePBR policies to redirect packets by using the the switch(config-epbr-policy)# **pbr set-vrf** command is introduced. For more information, see Cisco Nexus 9000 Series NX-OS ePBR Configuration Guide, Release 10.5(x).
	EVPN over RFC5549 Multisite Use Case Support	Beginning with Cisco NX-OS Release 10.5(2)F, VXLANv4 VTEP over EVPN session between direct connected interface for single-site environments is supported. For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.5(x).

Product Impact	Feature	Description
	Support for Dot1x with Voice VLAN	Beginning with Cisco NX-OS Release 10.5(2)F, the IEEE 802.1X voice VLAN feature enables multidomain 802.1X authentication on all voice VLAN supported ports, providing authentication to both VoIP phones and PCs connected to them. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.5(x).
	UDP services identification	Beginning with Cisco NX-OS Release 10.5(2)F, standard and custom UDP ports can be configured to mask the exported flows for Traffic Analytics. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.5(x).
	Increase RSA key size to 4096 bits	Beginning with Cisco NX-OS Release 10.5(2)F, RSA key sizes upto 4096 bits for SSH and upto 3072 and 4096 bits for cryptographic certificates is supported. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.5(x).
	CoPP configuration consistency	Beginning with Cisco NX-OS Release 10.5(2)F, CoPP consistency checker is introduced to ensure the consistency of all SUP related ACLs across the Software and Hardware layers. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.5(x).
	SNMP AES 256 support	Beginning with Cisco NX-OS Release 10.5(2)F, support to configure AES-256 as the privacy protocol for SNMPv3 traffic is introduced. For more information see, Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.5(x).
	Nexus Dashboard License consumption on NX-OS Switches	Based on the request for controller licenses from the ND Controller, the corresponding licenses are consumed on the NX-OS switch. The license consumption can be verified using the show commands on the NX-OS switch. See Cisco Nexus 9000 and 3000 Series NX-OS Smart Licensing Using Policy User Guide.
	uRPF support	Beginning with Cisco NX-OS Release 10.5(2)F, uRPF is supported on Cisco Nexus 9800 Series switches. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.5(x).
	Support for IP unnumbered interfaces	Beginning with Cisco NX-OS Release 10.5(2)F, IP unnumbered is supported on non-SVI interfaces only. This support is available with N9K-C9808, and N9K-C9804. For more information, see Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 10.5(x).

Product Impact	Feature	Description
	Increased Egress NAT translations per port	Beginning with Cisco NX-OS Release 10.5(2)F, the range for maximum replications for the map interface is increased to 250. This enhanced range is supported on all the platforms that support multicast NAT. For more information see, Cisco Nexus 9000 Series NX-OS Multicast Routing Configuration Guide Release 10.5(x).
	DSVNI with IPv6 Underlay support	Beginning with Cisco NX-OS Release 10.5(2)F, the VXLAN EVPN with downstream VNI feature is supported on both IPv4 and IPv6 underlay. For more information, see Cisco Nexus 9000 Series NX-OS VXLAN Configuration Guide, Release 10.5(x).
	QKD MACsec fallback support	Beginning with Cisco NX-OS Release 10.5(2)F, support for QKD MACsec fallback to PSK is introduced to establish a secured MKA session when the primary PPK fails. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.5(x).
	Mixed-path Enhancement to support vPC for VNF	Next-hop filtering can be configured to exclude next-hop VNF addresses that are temporarily silent. By excluding such silent next hops, you can prevent routing issues and ensure that traffic is not sent to unresponsive or non-existent destinations. See Cisco Nexus 9000 Series VXLAN Configuration Guide, and Verified Scalability Guide, Release 10.5(x).
	Single drop identification	Beginning with Cisco NX-OS Release 10.5(2)F, the drop identification feature allows you to identify the nodes causing intermittent packet drop at per flow basis. Using this feature, users can trace packet flow without a sniffer, ethanalyzer, or ELAM. For more information, see Cisco Nexus 9000 Series NX-OS System Management Configuration Guide, Release 10.5(x).
	Granular Flow Priority	Beginning from Cisco NX-OS Release 10.5(2)F, the IPFM granular priority-based flow feature provides multiple levels of priorities to the IPFM flow and allows to prioritize the critical flows. Priority flow is not supported on PIM passive mode. However, this operation is applicable only when there is lack of bandwidth in the fabric. For more information, see Cisco Nexus 9000 Series NX-OS IP Fabric for Media Solution Guide, Release 10.5(x).
	Merging Telemetry Subscriptions	Beginning with Cisco NX-OS 10.5(2)F, support is added to create a single telemetry collection for all the sensor groups even if they are included in multiple subscriptions, unless a parser file is configured in any of its destination groups. For more information, see Cisco Nexus 9000 Series NX-OS Programmability Guide, Release 10.5(x).

Enhanced Software Features

The enhanced features that are listed below are existing features that are introduced in earlier releases, but enhanced to support new platforms in Cisco NX-OS Release 10.5(2)F.

Product impact	Feature	Description
Feature Set	SVI statistics rate	Beginning with Cisco NX-OS Release 10.5(2)F, the **hardware profile svi-and-si flex-stats-enable** command is introduced to view the SVI statistics rate. For more information, see Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 10.5(x).
	MTS latency threshold	Beginning with Cisco NX-OS Release 10.5(2)F, this feature allows you to configure MTS latency threshold for a service access point (SAP) or range of SAPs. The threshold value is configured in milliseconds. NX-OS logs the instance when the delay crosses the threshold value. For more information, see Cisco Nexus 9000 Series NX-OS High Availability and Redundancy Guide, Release 10.5(x).
	Third-party applications support	Support to monitor third-party applications for crash and exit is added. If the application crashes or exits, NX-OS restarts the application. For more information, see Cisco Nexus 9000 Series Programmability Guide, Release 10.5(x).
	DACL support on Cisco Nexus 9300 switches	Beginning with Cisco NX-OS Release 10.5(2)F, DACL feature supported is extended on Cisco Nexus 9300-FX3, GX, GX2, H2R, and H1 Series switches. For more information, see Cisco Nexus 9000 Series NX-OS Security Configuration Guide, Release 10.5(x).
	Parameters to maintain Load Balancing	Beginning with Cisco NX-OS Release 10.5(2)F, the inner IP header fields source, destination IP address and IP protocol is used to maintain load balancing. For more information, see Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 10.5(x).
	Auto Negotiation support	Beginning with Cisco NX-OS Release 10.5(2)F, auto negotiation feature is supported on the following switches: N9K-C9364D-GX2A, N9K-C9332D-GX2B, N9K-C93560LD-GX2B, N9K-C9348D-GX2A, and N9K-C9408. For more information, see Cisco Nexus 9000 Series NX-OS Interfaces Configuration Guide, Release 10.5(x).

Hardware Features

New Hardware Features

N9K-X9736C-FX3 Line Card

The N9K-X9736C-FX3 line card is a 36-port 40GE/100GE line card for Cisco Nexus 9504, Nexus 9508, and Nexus 9516 switches.

For details on Cisco Nexus N9K-X9736C-FX line card, see:

- Cisco Nexus 9504 NX-OS Mode Switch Hardware Installation Guide
- Cisco Nexus 9508 NX-OS Mode Switch Hardware Installation Guide
- Cisco Nexus 9516 NX-OS Mode Switch Hardware Installation Guide

N9K-C92348GC-FX3

The Cisco Nexus C92348GC-FX3 switch (N9K-C92348GC-FX3) is a 1-RU fixed-port, L2/L3 switch, designed for deployment in data centers. This switch has 48x 100M/1G BASE-T downlink ports, 4x 10/25 Gbps SFP28+ uplink ports, 2x 40/100 Gbps QSFP28+ uplink ports, and will deliver 696 Gbps of total bandwidth.

This switch includes these user-replaceable components.

- Fan modules (3) with the following airflow choices.
    - Port-side intake airflow with burgundy coloring (NXA-SFAN-30CFM-PI)
    - Port-side exhaust airflow with blue coloring (NXA-SFAN-30CFM-PE)
- Power supply modules (two—one for operations and one for redundancy [1+1]) with these choices (a mix of AC and DC power sources is supported. However, do not mix airflow directions):
    - 350-W AC power supply with port-side intake airflow (burgundy coloring) (NXA-PAC-350W-PI2)
    - 350-W AC power supply with port-side exhaust airflow (blue coloring) (NXA-PAC-350W-PE2)
    - 350-W PHV power supply with port-side intake airflow (burgundy coloring) (NXA-PHV-350W-PI)
    - 350-W PHV power supply with port-side exhaust airflow (blue coloring) (NXA-PHV-350W-PE)
    - 440-W DC power supply with port-side intake airflow (burgundy coloring) (NXA-PDC-440W-PI)
    - 440-W DC power supply with port-side exhaust airflow (blue coloring) (NXA-PDC-440W-PE)

For details on Cisco Nexus 92348GC-FX3 switch, see the Cisco Nexus 92348GC-FX3-NX-OS Mode Switch Hardware Installation Guide.

Unsupported Features on N9K-C92348GC-FX3

The following features are not supported on N9K-C92348GC-FX3 in Cisco NX-OS Release 10.4(4)M.

- MPLS
- VXLAN
- Analytics
- container-tracker
- Edge Virtual Bridge (evb)
- hardware-telemetry

- macsec
- nbm
- netflow
- ngoam
- nv overlay
- ptp
- security-group
- vmtracker
- vn-segment-vlan-based
- fcoe
- fcoe-npv

Enhanced Hardware Features

Cisco NX-OS Release 10.5(2)F does not include any enhanced hardware features for the Cisco Nexus 9000 Series.

Release Image

In Cisco NX-OS Release 10.5(2)F, the following three 64-bit images are supported:

- The 64-bit Cisco NX-OS image filename with “nxos64-cs” as the prefix (for example, nxos64-cs.10.5.2.F.bin) is supported on all Cisco Nexus 9000 series switches except Cisco Nexus 9500 -R and -R2 switches.
- The 64-bit Cisco NX-OS image filename with “nxos64-s1” as the prefix (for example, nxos64-s1.10.5.2.F.bin) is supported and mandatory on all Cisco Nexus 9800 series switches.
- The 64-bit Cisco NX-OS image filename with " nxos64-msll” as the prefix (for example, nxos64-msll.10.5.2.F.bin) is supported on Cisco Nexus 9000 Series -R and -R2 modular switches.

Note: The 32-bit image is no longer supported.

Open Issues

Click the bug ID to access the Bug Search Tool and see additional information about the bug.

Bug ID	Headline
CSCwj48097	The throughput displayed by `show policy-map interface ethernet x/y` outputs as " n/a bps" in N9K.
CSCwj54742	MGMT connectivity issues for N9K-C9408 PIDs
CSCwk49611	Delayed linkup seen with 100G-SR4 on BV ports
CSCwm84389	New L3VNID config automatically gets added to the running and startup post upgrade to 10.2 code
CSCwm98382	Traffic not forwarded in LACP port-channel with 2 active FEX HIF interfaces

Bug ID	Headline
CSCwk49611	Delayed linkup seen with 100G-SR4 on BV ports
CSCwm84389	New L3VNID config automatically gets added to the running and startup post upgrade to 10.2 code
CSCwm98382	Traffic not forwarded in LACP port-channel with 2 active FEX HIF interfaces
CSCwn11753	Memory leak in SNMP due to libutils.so
CSCwn14266	MPLS Labeled destination traffic dropped on N9k EOR with RX line card

Resolved Issues

Click the bug ID to access the Bug Search Tool and see additional information about the bug.

Bug ID	Headline
CSCvz47575	Traceback TACACS-3-L3VM_LIBINIT Seen After AAA Failures
CSCwf32715	When a long username is used, Cisco Nexus 9000 switch crashes at @security_add_user
CSCwf93175	FIB and RIB become inconsistent after EIGRP route switchover
CSCwh90029	Error fetching entries from hardware -- forwarding l2 table utilization instance all
CSCwi36291	QSFP-100G40G-BIDI higher linkup time issue on 9364C/9332C
CSCwi92756	NXOS - RFC5424 timestamp hour is shifted by local zone offset
CSCwj16298	Restart SMU install operation will fail " " failed because could not get affected services" .
CSCwj21998	PTP correction is not working when switching from Low MPD to high MPD with asymmetry.
CSCwj50127	NXOS PSU shows shutdown though PSU is working
CSCwj65063	Login with " admin" user with incorrect password allowed when " none" aaa authentication is configured
CSCwj95850	N9K-C9348GC-FXP - Ingress drops all packets with Bad Preamble tag
CSCwk04520	n9k: " DCBX No ACK in 100 PDU" seen after upgrade from 9.3.x to 10.3.4a
CSCwk24494	Traffic blackholing caused due to IPv4 host route misprogramming
CSCwk24875	svi is taking longer to come up on GIR/vpc domain no shut on primary
CSCwk35857	Traffic blackholed after module or chassis reload EOR R linecards with custom MAC config
CSCwk36818	N9K - Memory leak in TAHUSD_MTRACK_TYPE_STATS_DMA_HDLR
CSCwk42441	SNMP does not show NXA-PAC-350W-PI PSU PID and serial number correctly
CSCwk42645	N9K System Controllers, SUP and LCs reloaded after 25 days uptime

Bug ID	Headline
CSCwk45686	Twamp not working in a server-N9k setup.
CSCwk49219	Type 2 route for RMACs with Next hop set to vIP address is not generated for IPv6 Fabric underlay
CSCwk49778	Getting an error when trying to enable log-neighbor-changes command
CSCwk52635	Removing VLAN on one pair causing other pair to suspend all VLANs on port-channel in pvlan trunk
CSCwk56902	Configuring 'udld diable' thru configure-replace it returns an empty patch and nothing configuring
CSCwk59961	MMODE config failure with large range of interface configs
CSCwk61156	QinQ traffic disrupted afer removing " switchport trunk allow-multi-tag" command
CSCwk61156	QinQ traffic disrupted after removing " switchport trunk allow-multi-tag" command
CSCwk61235	Critical CVE in component openssh. Upgrade to latest version.
CSCwk64527	Pr1f#Permission denied error seen on show interface | json on network-operator other than admin
CSCwk69444	Rapid memory leak in security and component(libpython3.8.so.1.0)
CSCwk70281	NXOS: port-security mac-address config accepted but not applied
CSCwk72984	10.5(1): N9K-X9400-8D: 4x100g DR4 HBO/SBO, all 4 lanes are not up on LEM reload/power cycle
CSCwk73210	private-vlans suspended on vpc primary side after switch bootup
CSCwk73210	private-vlans suspended on vpc primary side after switch bootup
CSCwk74397	Seeing ipfib core on sanireg05-tor2/N9K-C9332D-GX2B/CF with image pr1f_throttle_COV_10_5_0_15
CSCwk76266	IGMP proxy reports not generated for L2TRM
CSCwk76333	When shutting 48 ports simultaneously, N9K rarely sees traffic interrupt (delayed phy port down)
CSCwk77003	N9K delay forwarding of IGMP proxy v3 report when " ip igmp snooping v3-report-suppression" enabled
CSCwk77692	Continuous Alarms and Warnings on Ports Eth1/49 and Eth1/51 on N9K-C9348GC-FXP
CSCwk78346	N9K: DOM for passive QSA showing N/A for Rx Power
CSCwk78700	BGP does not pass Tunnel Encapsulation attribute to Cloudsec from the best path in BRIB
CSCwk78898	tahusd EDMA stuck seen on N9K-C9364C-GX
CSCwk79043	SNMP/libutils.so memory leak

Bug ID	Headline
CSCwk81195	BrightZR Breakout mode interface delayed linkup time to ~300 seconds
CSCwk82500	Nexus SNMP Transceiver Polling causes SNMPD process crash
CSCwk84750	Memory Leak on snmpd process
CSCwk88760	static igmp/mld snooping not work when flexlink UP/Standby state changed
CSCwk99030	GX/GX2 platforms leak ucast PIM register messages to s/w in switching path
CSCwm00544	Nexus N9K-X9716D-GX Failed 100G to 400G Conversion
CSCwm04251	Parent Missing for OID 1.3.6.1.2.1.47.1.1.1.1.4 in N9K-C93600CD-GX
CSCwm04351	N9K: 'show system internal access-list globals' contains unexpected output
CSCwm05051	QinQ inner-vlan stripped egress with system dot1q-tunnel transit
CSCwm05197	DHCP packet not able to traverse n9k when enabling ip addr dhcp on SVI on same VLAN as DHCP server
CSCwm05521	PR2F[39]: TAHUSD crash with " show" commands on BearValley ports
CSCwm06182	QDD-2X100-SR4-S - Breakout interfaces lanes shutdown when sibling interfaces are shutdown.
CSCwm06460	Unable to remove " fabric forwarding mode anycast-gateway" from a L3VNI
CSCwm11106	clean up traces in " show hardware internal tah event-history xcvr <port>"
CSCwm11587	During traffic congestion with degraded VPC link, VPC fabric peer could send TCP pkts w/ DSCP 0
CSCwm11668	Running " show logging onboard card-boot-history" and similar commands on FX3 in fex mode crashes FEX
CSCwm13904	Unable to install nxapi certificate
CSCwm24449	Missprogramming Infra-VLAN is redirecting traffic to CPU on Nexus 9K.
CSCwm26220	snmp returns wrong PS model cevPowerSupplyNXAPAC350WPI for NXA-PAC-350W-PI2.
CSCwm27112	CPU queue getting stuck causing features/protocols using that queue to fail due to SOD
CSCwm29677	SUP Switchover due to urib crash service termination by sysmgr (heartbeat)
CSCwm29927	NTP configuration with use-vrf management fails with FQDN
CSCwm30659	Twampv6 not working in 10.2(4) release
CSCwm34100	After reloading maintenance mode, some config are not display and unconfig interfaces are affected
CSCwm35057	In 9k vpc, remove and readd peer-gateway on both sides results in stale sdk-l2 entry

Bug ID	Headline
CSCwm36299	Add ability to easily verify if a vpc peer's router mac is having G flag on per vlan basis
CSCwm37332	PTP out of sync on a breakout interface
CSCwm39756	L2 multicast traffic is not forwarded to vPC Fabric peer switch.
CSCwm40478	N9K-X9636C-RX: Traffic Punt with default route + uRPF
CSCwm40487	Dispute detected with Peer-switch enabled on non-root
CSCwm45137	Observing tahusd crash & box reload while running sh tech all or tac-pac
CSCwm47657	Nexus responds with timeout instead of " Bad context specified" when SNMP query uses context
CSCwm48014	Nexus 9500 mgmt0 interface reverts to 100m after upgrade
CSCwm49356	IGMP flooding through TAP interfaces
CSCwm49373	EVPN prefix fails to advertise when dup paths with same GWIPs are shared between RR via iBGP
CSCwm50407	Host Route learning is failing when vPC peer switch is down for orphan host
CSCwm55371	n9k/vpc - VPC MAC table may have out of sync with high mac scale after peer link flap
CSCwm60041	ERROR: Activate failed: App config contains options that are allowed only for trusted apps
CSCwm60250	Memory Leak in l2fm Process Shared Library libutils.so on Nexus 9k Switches
CSCwm61956	n9k: Incorrect static route after NH move between VPC peers in VPC fabric peering
CSCwm63165	under router ospf, no redistribute <proto> without route-map is not working
CSCwm63174	under ospfv3 address-family ipv6, no redistribute <proto> without route-map is not working
CSCwm64503	Netconf-replace failure because of " vpc orphan-port suspend" CLI
CSCwm68391	N9K crashes with IPFIB Segmentation Fault when processing iBGP Updates with unreachable NHs
CSCwm77153	Nexus 9500 - ethport-channel core with ascii reload
CSCwm78254	N9K/OSPF route was not installed in route table
CSCwm78875	SNMP trap not generated on MGMT port using IPv6 address
CSCwm80669	Proactive IP SLA not able to be configured
CSCwm80791	Retimer show commands hog CSUSD main thread, client apps could get killed.
CSCwm83889	TCAM exhaustion caused by ACL configuration pushed through NETCONF results in DME sync issues
CSCwm89006	N9K: Modification failed for NBM flow policy name with the character '/'

Bug ID	Headline
CSCwm97982	IPv4 policy route-map (PRM) cannot be removed from SVIs If TCAM reaches high utilization
CSCwn07611	Not possible to remove " license smart proxy" from starting-configuration
CSCwn09685	Service " port-profile" crashes due to a memory leak
CSCwn10332	IPv6 ACL Miss Programmed Blocking ICMP Echo-Reply Type 129
CSCwn18829	%ACLQOS-SLOT1-2-ACLQOS_OOTR: Tcam resource exhausted: DHCP Snoop FHS

General/Known Issues

Click the bug ID to access the Bug Search Tool and see additional information about the bug.

Bug ID	Description
CSCwi95977	DME CC failure for mutiisite virtual rmac
CSCwi95768	Loopback Ping is not working after enabling MPLS LDP at Interface
CSCwh88451	URIB crashed on urib_chlist_segv_handler after restarting bgp and urib together
CSCwi57646	ESG_SGACL: Source of MAC detail is not seen in json output of MAC table
CSCwi87175	slight drop in L2 multicast performance in N9K-C9364C-H1 switch
CSCwi24238	With NDFC/auto-config, VPC peer-link stays down on disable 'feature tunnel-encryption'
CSCvt37624	'The BGP instance is not in expected state' after quick bgp unconfig / reconfig with 700K ipv4 pfx
CSCwi22304	TTL is not decremented for decap L3 VPN traffic on N9800
CSCwh44244	DME inconsistency in sys/mplsta-[eth1/7/1] object after some CLI sequence

Device Hardware

The following tables list the Cisco Nexus 9000 Series hardware that Cisco NX-OS Release 10.5(1)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 9800 Switches

Product ID	Description
N9K-C9808	16-RU modular switch with slots for up to 8 Line Cards in addition to 2 supervisors, 8 fabric modules, 4 fan trays, and 3 power trays.
N9K-C9804	10-RU modular switch with slots for up to 4 Line Cards in addition to 2 supervisors, 8 fabric modules, 4 fan trays, and 2 power trays.

Table 2. Cisco Nexus 9800 Series Line Cards

Product ID	Description
N9K-X9836DM-A	Cisco Nexus 9800 36-port 400G QSFP-DD Line Card with MACsec.
N9K-X98900CD-A	Cisco Nexus 9800 14-port 400G QSFP-DD + 34-port 100G QSFP28 Line Card.

Table 3. Cisco Nexus 9800 Series Fabric Modules

Product ID	Description
N9K-C9808-FM-A	Cisco Nexus 9800 Fabric Module for 8-slot Chassis
N9K-C9804-FM-A	Cisco Nexus 9800 Fabric Module for 4-slot Chassis

Table 4. Cisco Nexus 9800 Supervisor Module

Product ID	Description
N9K-C9800-SUP-A	Cisco Nexus 9800 Platform Supervisor Module

Table 5. Cisco Nexus 9800 Fans and Fan Trays

Product ID	Description
N9K-C9808-FAN-A	Cisco Nexus 9800 8-slot chassis fan tray (1st Generation)
N9K-C9804-FAN-A	Cisco Nexus 9800 4-slot chassis fan tray (1st Generation)

Table 6. Cisco Nexus 9800 Power Supplies

Product ID	Description
N9K-HV 6.3KW 20A-A	Cisco Nexus 9800 6,300W 20A AC and HV Power Supply

Table 7. Cisco Nexus 9500 Switches

Product ID	Description
N9K-C9504	7-RU modular switch with slots for up to 4 Line Cards in addition to two supervisors, 2 system controllers, 3-6 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, 3-6 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, 3-6 fabric modules, 3 fan trays, and up to 10 power supplies.

Table 8. Cisco Nexus 9500 Cloud Scale Line Cards

Product ID	Description	Maximum Quantity		
		Cisco Nexus 9504	Cisco Nexus 9508	Cisco Nexus 9516
N9K-X9716D-GX	Cisco Nexus 9500 16-port 400G QSFP-DD 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-X9736C-FX3	Cisco Nexus 9500 36-port 40GE/100GE 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 9. 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 10. 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 fabric module	4	5
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 11. 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 12. Cisco Nexus 9500 Supervisor Modules

Supervisor	Description	Maximum
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 and -R2 Line Cards.

Table 13. Cisco Nexus 9500 System Controller

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

Table 14. Cisco Nexus 9500 Fans and Fan Trays

Product ID	Description	Quantity
N9K-C9504-FAN	Fan tray for 4-slot modular chassis	3

Product ID	Description	Quantity
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 15. Cisco Nexus 9500 Fabric Module Blanks with Power Connector

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

Table 16. 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 17. Cisco Nexus 9400 Switches

Product ID	Description
N9K-C9408	4-RU, 8-slot centralized modular chassis switch, which is configurable with up to 128 200-Gigabit QSFP56 (256 100 Gigabit by breakout) ports or 64 400-Gigabit ports.
N9K-C9400-SUP-A	Cisco Nexus 9400 Supervisor Card
N9K-C9400-SW-GX2A	Cisco Nexus 9400 25.6Tbps Switch Card

Product ID	Description
N9K-X9400-8D	Cisco Nexus 9400 8p 400G QSFP-DD LEM
N9K-X9400-16W	Cisco Nexus 9400 16p 200G QSFP56 LEM
N9K-X9400-22L	Cisco Nexus 9400 LEM with 22 10G/25G/50G ports.

Table 18. Cisco Nexus 9200 and 9300 Switches

Cisco Nexus Switch	Description
N9K-C92348GC-X	The Cisco Nexus 92348GC-X switch (N9K-C92348GC-X) is a 1-RU 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 two-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-C93400LD-H1	1-RU fixed-port, L2/L3 switch with 48 50G SFP56 ports and 4 400G QSFP-DD uplink ports.
N9K-C93108TC-FX3	1 RU fixed-port switch Forty-eight 100M/1G/10GBASE-T ports (ports 1–48), Six 40/100-Gigabit ports QSFP28 (ports 49–54), Two management ports (one 10/100/1000BASE-T port and one SFP port), One console port (RS-232), and one USB port.
N9K-C9332D-H2R	1-RU fixed-port switch with 400-Gigabit QSFP-DD ports (32), 10-Gigabit SFP+ ports (2), Management ports (one 10/100/1000BASE-T port and one SFP port), console port (RS-232), and USB port.
N9K-C9348GC-FX3	1 RU fixed-port switch 48 10/100/1000M copper RJ-45 downlink ports, 4 10-/25G SFP28 uplink ports, and 2 40-/100G QSFP28 uplink ports.
N9K-C9348GC-FX3PH	1-RU fixed-port switch 40 10M/100M/1G copper RJ-45 downlink ports that support PoE/PoE+/PoE++ and 8 10M/100M copper RJ-45 downlink ports that support PoE/PoE+/PoE++, 4 10-/25G SFP28 uplink ports, and 2 40-/100G QSFP28 uplink ports.
N9K-C93180YC-FX3H	1-RU fixed-port switch with 24 100M/1/10/25-Gigabit Ethernet SFP28 ports (ports 1–24), 6 10/25/40/50/100-Gigabit QSFP28 ports (ports 49–54), One management port (one 10/100/1000BASE-T port), and One console port (RS-232)
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.
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)

Cisco Nexus Switch	Description
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 49-64 support MACsec encryption. • Ports 651-64and66 support 1/10 Gigabit speeds.
N9K-C9364C-H1	2-RU fixed-port switch with 64 100G SFP28 ports.
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 (1-RU) spine switch with 32p 400/100-Gbps QSFP-DD ports and 2p 1/10 SFP+ ports.
N9K-C9348D-GX2A	48p 40/100/400-Gigabit QSFP-DD ports and 2p 1/10G/10G SFP+ ports
N9K-C9364D-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 RJ-45 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

Cisco Nexus Switch	Description
N9K-C9348GC-FXP[1]	Cisco Nexus 9300 with 48p 100M/1 G, 4p 10/25 G SFP+ and 2p 100 G QSFP

Table 19. Cisco Nexus 9200 and 9300 Fans and Fan Trays

Product ID	Description	Quantity	Cisco Nexus Switches
NXA-SFAN-30CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	3	9348GC-FX3
NXA-SFAN-30CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	3	9348GC-FX3
NXA-SFAN-30CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	3	9348GC-FX3PH
NXA-SFAN-30CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	3	9348GC-FX3PH
NXA-SFAN-35CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	6 5 4	9332D-H2R 93400LD-H1 93108TC-FX3
NXA-SFAN-35CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	6 5 4	9332D-GX2B 93400LD-H1 93108TC-FX3
NXA-SFAN-35CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	6	9332D-GX2B
NXA-FAN-160CFM-PE	Fan module with port-side exhaust airflow (blue coloring)	3	9364C [2] 93360YC-FX2

[1] 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."

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

Product ID	Description	Quantity	Cisco Nexus Switches
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-FX Error! Reference source not found.[1] 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-FX Error! Reference source not found.[1] 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 [3] 93180YC-FX3 93108TC-FX3P 93180YC-FX3H 9336C-FX2-E 9316D-GX 93600CD-GX

[3] 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.

Product ID	Description	Quantity	Cisco Nexus Switches
NXA-FAN-35CFM-PI	Fan module with port-side intake airflow (burgundy coloring)	4	92300YC [1] 9332C [1] 93180YC-FX3S [2] 93180YC-FX3 93108TC-FX3P 93180YC-FX3H
		6	9316D-GX 93600CD-GX
	Fan module with port-side exhaust airflow (blue coloring)	6	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 20. Cisco Nexus 9200 and 9300 Power Supplies

Product ID	Description	Quantity	Cisco Nexus Switches
NXA-PDC-715W-PI	715-W DC power supply with port-side intake airflow (blue coloring)	2	93108TC-FX3P
NXA-PDC-440W-PE	440-W DC power supply with port-side exhaust airflow (blue coloring)	2	9348GC-FX3 9348GC-FX3PH
NXA-PDC-440W-PI	440-W DC power supply with port-side intake airflow (burgundy coloring)	2	9348GC-FX3 9348GC-FX3PH
NXA-PHV-350W-PE	350-W AC power supply with port-side exhaust airflow (blue coloring)	2	9348GC-FX3 9348GC-FX3PH
NXA-PHV-350W-PI	350-W AC power supply with port-side intake airflow (burgundy coloring)	2	9348GC-FX3 9348GC-FX3PH
NXA-PAC-350W-PE2	350-W AC power supply with port-side exhaust airflow (blue coloring)	2	9348GC-FX3 9348GC-FX3PH
NXA-PAC-350W-PI2	350-W AC power supply with port-side intake airflow (burgundy coloring)	2	9348GC-FX3 9348GC-FX3PH
NXA-PAC-1900W-PE	1900-W AC power supply with port-side exhaust airflow (blue coloring)	2	9348GC-FX3 9348GC-FX3PH
NXA-PAC-1900W-PI	1900-W AC power supply with port-side intake airflow (burgundy coloring)	2	9348GC-FX3 9348GC-FX3PH

Product ID	Description	Quantity	Cisco Nexus Switches
NXA-PHV-2KW-PI	2000-W HVDC power supply with port-side intake airflow (burgundy coloring)	2	9332D-H2R 93400LD-H1
NXA-PAC-1500W-PE	1500-W AC power supply with port-side exhaust airflow (blue coloring)	2	9332D-GX2B
NXA-PAC-1500W-PI	1500-W AC power supply with port-side intake airflow (burgundy coloring)	2	9332D-GX2B
NXA-PAC-500W-PE	500-W AC power supply with port-side exhaust airflow (blue coloring)	2	93180YC-FX 93108TC-FX3
NXA-PAC-500W-PI	500-W AC power supply with port-side intake airflow (burgundy coloring)	2	93180YC-FX 93108TC-FX3
NXA-PAC-650W-PE	650-W AC power supply with port-side exhaust (blue coloring)	2	92300YC 93180YC-FX3S 93180YC-FX3 93180YC-FX3H
NXA-PAC-650W-PI	650-W AC power supply with port-side intake (burgundy coloring)	2	92300YC 93180YC-FX3S 93180YC-FX3 93180YC-FX3H
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

Product ID	Description	Quantity	Cisco Nexus Switches
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
NXA-PAC-1400W-PE	1400-W AC power supply with port-side exhaust airflow (blue coloring)	2	93400LD-H1
NXA-PAC-1400W-PI	1400-W AC power supply with port-side intake airflow (burgundy coloring)	2	93400LD-H1
N9K-PUV-1200W	1200-W Universal AC/DC power supply with bidirectional airflow (white coloring)	2	92300YC 93108TC-FX 93360YC-FX2 93180YC-FX3S 93180YC-FX 9364C 93108TC-FX3
NXA-PDC-930W-PE	930-W DC power supply with port-side exhaust airflow (blue coloring)	2	93360YC-FX2 93180YC-FX3S 93180YC-FX 9364C 93180YC-FX3H 93108TC-FX3
NXA-PDC-930W-PI	930-W DC power supply with port-side intake airflow (burgundy coloring)	2	93360YC-FX2 93180YC-FX3S 93180YC-FX 9364C 93180YC-FX3H 93108TC-FX3
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
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

Product ID	Description	Quantity	Cisco Nexus Switches
NXA-PAC-2KW-PI	2000-W AC power supply with port-side intake airflow (burgundy coloring)	2	9364C-GX 9332D-H2R
NXA-PDC-2KW-PE	2000-W DC power supply with port-side exhaust airflow (blue coloring	2	9364C-GX 93400LD-H1
NXA-PDC-2KW-PI	2000-W DC power supply with port-side intake airflow (burgundy coloring)	2	9364C-GX 9332D-H2R 93400LD-H1
N2200-PAC-400W	400-W AC power supply with port-side exhaust airflow (blue coloring)	2	92348GC-X
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 21. 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-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 22. Cisco Nexus 9500 R-Series Line Cards

Product ID	N9K-C9504-FM-R	N9K-C9508-FM-R
N9K-X9636C-RX	6	6

Product ID	N9K-C9504-FM-R	N9K-C9508-FM-R
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

Table 23. Cisco Nexus 9500 R2-Series Line Cards

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

Optics

For information about transceivers and cables supported on a switch, see the Transceiver Module (TMG) Compatibility Matrix. For the transceiver specifications and installation information, see the Install and Upgrade Guides.

Cisco Nexus Dashboard Insights for Data Center

Cisco NX-OS Release 10.5(1)F supports the Cisco Nexus Dashboard Insights on Cisco Nexus 9300-FX, 9300-FX2, 9300-FX3, 9300-GX, 9300-GX2, 9400, and 9800 platform switches and 9500 platform switches with -EX/FX/GX Line Cards. 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 10.5(x). For information about an In Service Software Upgrade (ISSU), see the Cisco NX-OS ISSU Support Matrix.

Related Content

Document Title	Description
Cisco Nexus 9000 Series Switches	Cisco Nexus 9000 Series Switches documentation
Cisco NX-OS Software Strategy and Lifecycle Guide	Cisco NX-OS Software Release and Image-naming Convention
Cisco Nexus 3000 and 9000 Series NXAPI REST SDK User Guide and API Reference	Cisco Nexus 3000 and 9000 Series NX-NX-API REST SDK User Guide and API Reference
Cisco NX-OS Licensing Guide Cisco Nexus 9000 and 3000 Series NX-OS Switch License Navigator Cisco Nexus Smart Licensing Using Policy User Guide	Licensing Information When you downgrade from Cisco NX-OS Release 10.5(2)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.
Cisco Nexus 9000 Series NX-OS Software Upgrade and Downgrade Guide	Cisco Nexus 9000 Series Software Upgrade and Downgrade Guide, Release 10.5(x)
Cisco Nexus 9000 Series FPGA/EPLD Upgrade Release Notes	Cisco Nexus 9000 Series FPGA/EPLD Upgrade Release Notes, Release 10.5(2)F
Cisco Nexus 9000 Supported MIBs	Cisco NX-OS Supported MIBs
Cisco Nexus 9000 Series Switch FEX Support Matrix	Supported FEX modules
Cisco Nexus 9000 Series Hardware Installation Guides	Cisco Nexus 9000 Series Hardware Installation Guides

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