Cisco Nexus 9332C and 9364C Fixed Spine Switches

Contents

Product overview

Based on Cisco® Cloud Scale technology, this platform supports cost-effective, ultra-high-density cloud-scale deployments, an increased number of endpoints, and cloud services with wire-rate security and telemetry. The platform is built on modern system-architecture designed to provide high performance and meet the evolving needs of highly scalable data centers and growing enterprises.

The product is designed to support innovative technologies such as Media Access Control Security (MACsec), Virtual Extensible LAN (VXLAN), tunnel endpoint VTEP-to¬-VTEP overlay encryption, CloudSec and Streaming   Statistics Export (SSX)[1]. MACsec is a security technology that allows traffic encryption at the physical layer and provides secure server, border leaf, and leaf-to-spine connectivity. SSX is hardware-based, consisting of a
module that reads statistics from the ASIC and sends them to a remote server for analysis. Through this
application, users can better understand network performance without any impact on the switch control plane or CPU.

Cisco provides two modes of operation for Cisco Nexus® 9000 Series Switches. Organizations can use Cisco NX-OS Software to deploy the switches in standard Cisco Nexus switch environments (NX-OS mode).
Organizations can also deploy the infrastructure that is ready to support the Cisco Application Centric Infrastructure (Cisco ACI™) platform to take full advantage of an automated, policy-based, systems-management approach (Cisco ACI mode).

The Cisco Nexus 9332C is a compact form-factor 1-Rack-Unit (1RU) spine switch that supports 6.4 Tbps of bandwidth and 4.4bpps across 32 fixed 40/100G QSFP28 ports and 2 fixed 1/10G SFP+ ports (Figure 2).
Breakout cables are not supported. The last 8 ports marked in green are capable of wire-rate MACsec encryption.[2] The switch can operate in Cisco ACI Spine or NX-OS mode.

Figure 1.

Cisco Nexus 9332C Switch

Specifications

Table 1.   Cisco Nexus 9300 ACI Spine Switch specifications

Model	Cisco Nexus 9332C
Physical	32-port 40/100G QSFP28 ports and 2-port 1/10G SFP+ ports - Buffer: 40MB - System memory: 16 GB - SSD: 128GB - USB: 1 port - RS-232 serial console ports: 1 - Management ports: 2 (1 x 10/100/1000BASE-T and 1 x 1-Gbps SFP) - Broadwell-DE CPU: 4 cores
Power and cooling	- Power: 750W AC[4], 1100W AC, 1100 DC or 1100W HVAC/HVDC[5] - Input voltage: 100 to 240V* AC or -40V to -72V DC (min-max), -48V to -60V DC (nominal) *Supports input voltage of 100–120V for a max output of 800W, 200–240V for a max output of 1200W. PSU redundancy is not supported when used in 100–120V - Hot-swappable, 5 fans with redundancy - Frequency: 50 to 60 Hz (AC) - Efficiency: 90% or greater (20 to 100% load) - RoHS compliance: Yes - Port-side intake or port-side exhaust options - Typical power: 296W (AC) - Maximum power: 700W (AC)

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[3] 930W-DC PSU is supported in redundancy mode if 3.5W QSFP+ modules or Passive QSFP cables are used and the system is used in 40°C ambient temperature or less; for other optics or higher ambient temperatures, 930W-DC is supported with 2 PSU's in nonredundancy mode only.

[4] 750W AC PSU is compatible only with software versions ACI-N9KDK9-14.2 or NXOS-9.3.3 and onwards

[5] HVAC/HVDC support is on the roadmap for future releases confirmed.

Model	Cisco Nexus 9332C
Environmental	● Physical (H x W x D): 1.7 x 17.3 x 22.9 in. (4.4 x 43.9 x 58.1 cm) ● Weight: 25.1lb (11.4kg) with power supplies and fans, 19 lb (8.6kg) without power supplies and fans ● Operating temperature: 32 to 104°F (0 to 40°C) ● Nonoperating (storage) temperature: -40 to 158°F (-40 to 70°C) ● Humidity: 5 to 90% (noncondensing) ● Altitude: 0 to 13,123 ft (0 to 4000m) ● RoHS compliance: Yes
Acoustics	● Fan speed at 50%: 76.4 dBA ● Fan speed at 70%: 83.3 dBA ● Fan speed at 100%: 92.1 dBA
MTBF	● 363,500 hours

Performance and scalability

Table list2s the performance and scalability specifications for the Cisco Nexus 9364C and 9332C switches. **Table 2.**

Performance and scalability specifications

Item	Specifications
Maximum number of IPv4 host entries	● Default: 96,000 ● LPM heavy[*]: 262,000
Maximum number of IPv6 host entries	● Default: 96,000 ● LPM heavy[*]: 262,000
Number of multicast routes	● Default: 8,000 ● LPM heavy[*]: 32,768
Number of Access Control List (ACL) entries[*]	● Per slice of the forwarding engine: ● 4,000 ingress ● 2,000 egress ● Maximum: 16,000 ingress ● 8,000 egress ● Shipping: 14,328 ingress ● 7,160 egress

Item	Specifications
Maximum number of Virtual Routing and Forwarding (VRF) instances	1,000
Maximum number of Equal-Cost Multipath (ECMP) paths	64
Maximum number of port channels	64
Maximum number of Rapid Per-VLAN Spanning Tree (RPVST) instances	3,967
Maximum number of Multiple Spanning Tree (MST) instances	64
Maximum number of static Network Address Translation (NAT) entries	1,023
Maximum number of static twice NAT entries	768
Number of Queues	8

* LPM-heavy values are the maximum numbers. **

127 VLANs out of 4096 are reserved.

Refer to the Cisco Nexus 9000 Series Verified Scalability Guide for the latest, exact scalability numbers validated for specific software.

Regulatory Standards Compliance

Table 3 summarizes the regulatory standards compliance of the 9332C switch. switch.

Table 3.   Regulatory Standards Compliance: Safety and EMC

Specification	Description
Safety	• UL 60950-1 Second Edition • CAN/CSA-C22.2 No. 60950-1 Second Edition • EN 60950-1 Second Edition • IEC 60950-1 Second Edition • AS/NZS 60950-1 • GB4943
EMC: Immunity	• EN55024 • CISPR24 • EN300386 • KN 61000-4 series

[*] Cisco Nexus N9K-C9364C passes EMC Radiated Emissions standards in all configurations, with the only exception being if > 40 pluggable optics of Cisco QSFP-100G-SR4-S, Part# 10-3142-02 (or 10-3142-01) are used.

Supported optics pluggable

For details on the optical modules available and the minimum software release required for each supported optical module, visit

https://www.cisco.com/en/US/products/hw/modules/ps5455/products_device_support_table_list.html.

Software licensing

The software packaging for the Cisco Nexus 9000 Series offers flexibility and a comprehensive feature set. The default system software has a comprehensive Layer 2 security and management feature set. To enable additional functions, including Layer 3 IP unicast and IP multicast routing and Cisco Nexus Data Broker, you must install additional licenses. The licensing guide illustrates the software packaging and licensing available to enable advanced features. For the latest software release information and recommendations, refer to the product bulletin at https://www.cisco.com/go/nexus9000.

Ordering information

Table 4 presents ordering information for the Cisco Nexus 9300 ACI Spine Switch.

Table 4.   Ordering information

Part number	Product description
Hardware	
N9K-C9364C	Cisco Nexus 9364C ACI Spine Switch with 64p 40/100G QSFP28, 2p 1/10G SFP
N9K-C9332C	Cisco Nexus 9332C ACI Spine Switch with 32p 40/100G QSFP28, 2p 1/10G SFP
FAN options	
NXA-FAN-160CFM-PI	Cisco Nexus Fan, 160CFM, port-side intake airflow
NXA-FAN-160CFM-PE	Cisco Nexus Fan, 160CFM, port-side exhaust airflow
NXA-FAN-35CFM-PI	Cisco Nexus Fan, 35CFM, port-side intake airflow
NXA-FAN-35CFM-PE	Cisco Nexus Fan, 35CFM, port-side exhaust airflow
Power supply options	
NXA-PAC-750W-PI	Cisco Nexus 9000 750W AC PS, Port-side Intake
NXA-PAC-750W-PE	Cisco Nexus 9000 750W AC PS, Port-side Exhaust
NXA-PAC-1100W-PE2	Cisco Nexus 1100W AC PS, port-side exhaust
NXA-PAC-1100W-PI2	Cisco Nexus 1100W AC PS, port-side intake
NXA-PAC-1200W-PE	Cisco Nexus 1200W AC PS, port-side exhaust
NXA-PAC-1200W-PI	Cisco Nexus 1200W AC PS, port-side intake
N9K-PUV-1200W	Cisco Nexus 1200W, 200-277AC,240-380DC, dual airflow PSU
NXA-PDC-930W-PE	Cisco Nexus 930W -48V DC PS, port-side exhaust
NXA-PDC-930W-PI	Cisco Nexus 930W -48V DC PS, port-side intake
NXA-PHV-1100W-PE	Cisco Nexus 1100W Platinum HV-AC-DC PS, port-side exhaust

Part number	Product description
NXA-PHV-1100W-PI	Cisco Nexus 1100W Platinum HV-AC-DC PS, port-side intake
NXA-PDC-1100W-PE[6]	Cisco Nexus 1100W Platinum DC PS, port-side exhaust
NXA-PDC-1100W-PI	Cisco Nexus 1100W Platinum DC PS, port-side intake
Power cords	
CAB-250V-10A-AR	AC Power Cord - 250V, 10A - Argentina (2.5 meters)
CAB-250V-10A-BR	AC Power Cord - 250V, 10A - Brazil (2.1 meters)
CAB-250V-10A-CN	AC Power Cord - 250V, 10A - PRC (2.5 meters)
CAB-250V-10A-ID	AC Power Cord - 250V, 10A - South Africa (2.5 meters)
CAB-250V-10A-IS	AC Power Cord - 250V, 10A - Israel (2.5 meters)
CAB-9K10A-AU	Power Cord, 250VAC 10A 3112 Plug, Australia (2.5 meters)
CAB-9K10A-EU	Power Cord, 250VAC 10A CEE 7/7 Plug, EU (2.5 meters)
CAB-9K10A-IT	Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy (2.5 meters)
CAB-9K10A-SW	Power Cord, 250VAC 10A MP232 Plug, SWITZ (2.5 meters)
CAB-9K10A-UK	Power Cord, 250VAC 10A BS1363 Plug (13 A fuse), UK (2.5 meters)
CAB-9K12A-NA	Power Cord, 125VAC 13A NEMA 5-15 Plug, North America (2.5 meters)
CAB-AC-L620-C13	North America, NEMA L6-20-C13 (2.0 meters)
CAB-C13-C14-2M	Power Cord Jumper, C13-C14 Connectors, 2 Meter Length (2.0 meters)
CAB-C13-CBN	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C13 Connectors (0.7 meter)
CAB-IND-10A	10A Power Cable for India (2.5 meters)
CAB-N5K6A-NA	Power Cord, 200/240V 6A, North America (2.5 meters)
CAB-HVDC-3T-2M	HVDC Power Cable, China CCC Compliant, Thin (2.0 meters)
CAB-HVAC-SD-0.6M	HVAC Power Cable for Anderson-LS-25
CAB-HVAC-RT-0.6M	HVAC Power Cable with Right-Angle Connector for RF-LS-25
CAB-48DC-40A-8AWG	C-Series -48VDC PSU Power Cord, 3.5M, 3 Wire, 8AWG, 40A

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[6] The 1100W DC power supply (NXA-PDC-1100W-PE/PI) is shipped with a connector already plugged into the power supply; a cable is therefore not required. For more product specification information, please see the Hardware Installation Guidehere.

Part number	Product description
Accessories	
N9K-C9300-ACK	Cisco Nexus 9300 Accessory Kit
N9K-C9300-RMK	Cisco Nexus 9300 Rack Mount Kit
N3K-C3064-ACC-KIT	Cisco Nexus 1RU Switch Accessory Kit
NXK-ACC-KIT-1RU[7]	Cisco Nexus 3000/9000 Fixed Accessory Kit, 1 RU front and rear removal
NXK-ACC-KIT-2RU	Cisco Nexus 3000/9000 Fixed Accessory Kit, 2 RU front and rear removal

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