Nexus 9300 GX2 Series fixed switches

Contents

Product overview

The Cisco Nexus 9300-GX2 Series switches address the need for high-performance, power-efficient, compact switches in the networking infrastructure. These switches are optimized for supporting large network fabrics due to their compact size and high density. These ports support various speeds and breakouts, and offer wire-rate MACsec encryption.

Switch model detail

Figure 1.   Cisco Nexus 9364D-GX2A switch

The Cisco Nexus 9364D-GX2A is a 2-rack-unit (2RU) switch that supports 51.2 Tbps of bandwidth and 8.35 bpps across 64 fixed 400G QSFP-DD ports and 2 fixed 1/10G SFP+ ports (Figure 1). QSFP-DD ports also support native 200G (QSFP56), 100G (QSFP28), and 40G (QSFP+). Each port can also support 4 x 10G, 4 x 25G, 4 x 50G, 4 x 100G, and 2 x 200G breakouts. The first 16 ports, marked in green, are capable of wire-rate MACsec encryption. This switch is best suited to support massive scale-out fabrics as a compact, high-density spine.
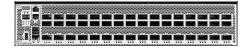

Figure 2.   Cisco Nexus 9348D-GX2A switch

The Cisco Nexus 9348D-GX2A is a 2-rack-unit (2RU) switch that supports 38.4 Tbps of bandwidth and 8.35 bpps across 48 fixed 400G QSFP-DD ports and 2 fixed 1/10G SFP+ ports (Figure 2). QSFP-DD ports also support native 200G (QSFP56), 100G (QSFP28), and 40G (QSFP+). Each port can also support 4 x 10G, 4 x 25G, 4 x 50G, 4 x 100G, and 2 x 200G breakouts. All 48 ports are capable of wire-rate MACsec encryption. This switch is best suited to support massive scale-out fabrics as a compact, high-density spine.

Figure 3.   Cisco Nexus 9332D-GX2B switch

The Cisco Nexus 9332D-GX2B is a compact form-factor 1-rack-unit (1RU) switch that supports 25.6 Tbps of bandwidth and 4.17 bpps across 32 fixed 400G QSFP-DD ports and 2 fixed 1/10G SFP+ ports (Figure 3). QSFP-DD ports also support native 200G (QSFP56), 100G (QSFP28), and 40G (QSFP+). Each port can also support 4 x 10G, 4 x 25G, 4 x 50G, 4 x 100G, and 2 x 200G breakouts. The last 8 ports, marked in green, are capable of wire-rate MACsec encryption.

Product highlights

The Nexus 9300-GX2 Series switches are compact switches for next-generation leaf and spine networks. Here are the key details:

· **Performance and efficiency:** These switches deliver fast data processing with low latency, making them ideal for environments where speed is critical. They are energy-efficient, reducing power consumption and operational costs, benefits for both the environment and an organization's bottom line.

· **Flexible and scalable:** Organizations can easily add more connections and support faster network speeds without replacing the entire system. The switches also make network management simpler, allowing quick adjustments to meet changing demands.

· **Observability and control:** The Nexus Dashboard Data Broker provides complete observability into the network, helping customers identify and mitigate security threats, remediate performance bottlenecks, adhere to data compliance, and gain insight into capacity planning operations. This feature enhances the control and management of the network infrastructure.

· **Advanced operating system:** The Cisco NX-OS Software operating system is purpose-built and modular, with a dedicated process for each routing protocol. This design isolates faults and increases availability, enhancing the reliability of the system.

· **Comprehensive support:** The switches support a wide range of protocols and infrastructures, including Cisco ACI, Cisco NX-OS VXLAN EVPN, Cisco IP Fabric for Media, Cisco Nexus Dashboard Data Broker, and IP routed or Ethernet switched Layer-2 fabrics. This support allows for a flexible and adaptable network architecture.

Specifications

Model	Cisco Nexus 9364D-GX2A	Cisco Nexus 9348D-GX2A	Cisco Nexus 9332D-GX2B
Physical	64-port 400G QSFP-DD ports and 2-port 1/10G SFP+ ports Buffer: 120MB System memory: 32GB 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) CPU: 6 cores Weight without power supplies or fans: 58lbs (26.3kg)	48-port 400G QSFP-DD ports and 2-port 1/10G SFP+ ports Buffer: 120MB System memory: 32GB 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) CPU: 6 cores Weight without power supplies and fans: 51.2lbs (23.2kg)	32-port 400G QSFP-DD ports and 2-port 1/10G SFP+ ports Buffer: 120MB System memory: 32 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) CPU: 4 cores Weight without power supplies and fans: 28lbs (12.7kg)
Power and cooling	Power: 3200W AC Input voltage: 100 to 240V AC Hot-swappable, 4 fans, 3+1 redundancy Frequency: 50 to 60 Hz (AC) Efficiency: 90% or greater (20 to 100% load) Port-side intake Typical power: 1324 W Maximum power: 3000 W	Power: 3200W AC Input voltage: 100 to 240V AC Hot-swappable, 4 fans, 3+1 redundancy Frequency: 50 to 60 Hz (AC) Efficiency: 90% or greater (20 to 100% load) Port-side intake Typical power: 1380 W Maximum power: 3124 W	Power: 1500W AC Input voltage: 100 to 240V AC Hot-swappable, 6 fans, 5+1 redundancy Frequency: 50 to 60 Hz (AC) Efficiency: 90% or greater (20 to 100% load) Port-side intake and exhaust Typical power: 638 W Maximum power: 1442 W

Model	Cisco Nexus 9364D-GX2A	Cisco Nexus 9348D-GX2A	Cisco Nexus 9332D-GX2B
Environmental	Physical (H x W x D): 3.45 x 17.3 x 29.78 in. (8.76 x 43.94 x 75.65 cm) Acoustics: 78 dBA at 50% fan speed, 86.4 dBA at 70% fan speed, and 95.2 dBA at 100% fan speed Operating temperature: 32 to 104°F (0 to 40°C) Nonoperating (storage) temperature: –40 to 158°F (–40 to 70°C) Humidity: 5 to 95% (noncondensing) Altitude: 0 to 13,123 ft (0 to 4000m) Mean time between failure (MTBF): 216,590 hours	Physical (H x W x D): 3.45 x 17.41 x 29.83 in. (8.76 x 44.23 x 75.76 cm) Acoustics: 79.9 dBA at 50% fan speed, 87.6 dBA at 70% fan speed, and 96.4 dBA at 100% fan speed Operating temperature: 32 to 104°F (0 to 40°C) Nonoperating (storage) temperature: –40 to 158°F (–40 to 70°C) Humidity: 5 to 85% (noncondensing) Altitude: 0 to 13,123 ft (0 to 4000m) Mean time between failure (MTBF): 125,780 hours	Physical (H x W x D): 1.72 x 17.3 x 23.9 in. (4.4 x 43.9 x 60.8 cm) Acoustics: 71.1 dBA at 50% fan speed, 81.2 dBA at 70% fan speed, and 88 dBA at 100% fan speed Operating temperature: 32 to 104°F (0 to 40°C) with port-side intake 32 to 82°F (0 to 28°C) with port-side exhaust Nonoperating (storage) temperature: –40 to 158°F (–40 to 70°C) Humidity: 5 to 95% (noncondensing) Altitude: 0 to 13,123 ft (0 to 4000m) Mean time between failure (MTBF): 211,310 hours
Switch model	64 x 400-Gbps QSFP-DD and 2 x 1/10-Gbps SFP+ ports	48 x 400-Gbps QSFP-DD and 2 x 1/10-Gbps SFP+ ports	32 x 400-Gbps QSFP-DD and 2 x 1/10-Gbps SFP+ ports
Switch mode support	ACI spine: Yes ACI leaf: Yes NX-OS: Yes	ACI spine: Yes ACI leaf: Yes NX-OS: Yes	ACI spine: Yes ACI leaf: Yes NX-OS: Yes

Performance and scalability

Item	Nexus 9300-GX2A Series switches	Nexus 9300-GX2B Series switches
Number of slices	4 slice-pairs	2 slice-pairs
Maximum number of Pv4 Longest Prefix Match (LPM) routes*	1 million	2 million
Maximum number of IPv4 host entries*	1 million	2 million
Maximum number of IPv6 Longest prefix match (LPM) routes*	500K	1 million
Maximum number of IPv6 host entries	1 million	2 million
Maximum number of MAC address entries*	500K	1 million
Maximum number of multicast routes	256,000	256,000
Number of Internet Group Management Protocol (IGMP) snooping groups	Maximum: 32,000	Maximum: 32,000
Maximum number of Access-Control-List (ACL) entries	6000 ingress/slice 3000 egress/slice Max: 48,000 ingress, 24,000 egress	6000 ingress/slice 3000 egress/slice Max: 24,000 ingress, 12,000 egress

Licensing

Licenses are managed through Cisco smart accounts. For a more detailed overview on Licensing, go to **Cisco Software Licensing and Smart Accounts**.

Creating Smart Accounts by using the Cisco Smart Software Manager (Cisco SSM) enables you to order devices and licensing packages and manage your software licenses from a centralized website. You can set up Cisco SSM to receive daily email alerts and to be notified of expiring add-on licenses that you want to renew.

You must order an add-on license in order to purchase a switch. When the license term expires, you can either renew the add-on license to continue using it or deactivate the add-on license and then reload the switch to continue operating with the base license capabilities.

Both the base and add-on licenses are also available for a 90-day evaluation period. An evaluation license is activated temporarily, without purchase. An expired evaluation license cannot be reactivated after reloading.

Required licensing

There are three tier choices for software subscription: Essentials, Advantage, Premier, each with license term of 3-year, 5-year, and 7-year. For feature information, go to **Cisco Data Center Networking Software Subscriptions**.

Cisco Enterprise Agreement

The Cisco Enterprise Agreement (EA) is a flexible licensing solution that simplifies the purchase, management, and deployment of Cisco technologies. By combining multiple Cisco software and services into one agreement, the EA provides easy access to a wide range of products, including networking, security, collaboration, and data center solutions. This approach reduces administrative tasks, offers predictable costs, and allows for scalability and adaptability. With the Cisco EA, organizations can drive digital transformation and innovation while maintaining control over their IT investments. For information, go to **Cisco Enterprise Agreement**.

Ordering information

It's required to purchase supported optics pluggable for each hardware model of the Nexus 9300 GX2. For details on the optical modules available and the minimum software release required for each supported optical module model, go to Cisco Optics-to-Device Compatibility Matrix.

Hardware

Product number	Description
N9K-C9364D-GX2A	Cisco Nexus 9364D-GX2A Switch with 64p 400/100-Gbps QSFP-DD ports and 2p 1/10 SFP+ ports
N9K-C9348D-GX2A	Cisco Nexus 9348D-GX2A Switch with 48p 400/100-Gbps QSFP-DD ports and 2p 1/10 SFP+ ports
N9K-C9332D-GX2B	Cisco Nexus 9332D-GX2B Switch with 32p 400/100-Gbps QSFP-DD ports and 2p 1/10 SFP+ ports

Fan options

Product number	Description
NXASFAN-160CFM2PI	Cisco Nexus Fan, 160CFM, port-side intake airflow
NXA-SFAN-35CFM-PI	Cisco Nexus Fan, 35CFM, port-side intake airflow

Power supply options

Product number	Description
NXA-PAC-3200W-PI	Cisco Nexus 3200W AC PS, port-side intake
NXA-PAC-1500W-PI	Cisco Nexus 1500W AC PS, port-side intake
NXA-PAC-1500W-PE	Cisco Nexus 1500W AC PS, port-side exhaust

Power cords

Product number	Description
NO-PWR-CORD	No Power Cord Chosen
CAB-9K16A-BRZ	Power Cord 250VAC 16A, Brazil, Src Plug EL224-C19
CAB-9K16A-KOR	Power Cord 250VAC 16A, Korea, Src Plug
CAB-AC-16A-AUS	Power Cord, 250VAC, 16A, Australia C19
CAB-AC-2500W-EU	Power Cord, 250Vac 16A, Europe
CAB-AC-2500W-INT	Power Cord, 250Vac 16A, International
CAB-AC-2500W-ISRL	Power Cord,250VAC,16A, Israel
CAB-AC-16A-CH	16A AC Power Cord, China
CAB-ACS-16	AC Power Cord (Swiss) 16A
CAB-C19-CBN	Cabinet Jumper Power Cord, 250 VAC 16A, C20-C19 Connectors
CAB-IR2073-C19-AR	IRSM 2073 to IEC-C19 14ft, Argentina
CAB-L520P-C19-US	^NEMA L5-20 to IEC-C19 6ft US
CAB-AC-C19-TW	Power Cord, 250 V, 16A, C19, Taiwan, more
PWR-CORD10-IND	Power Cord, India, IEC60320/ C19, IS16A3, 7.0M Power Cord, India, IEC60320/ C19, IS16A3, 7.0MHide
CAB-C2316-C19-IT	CEI 23-16 to IEC-C19 14ft, Italy
CAB-AC-2500W-US1	Power Cord 250VAC 16A, Japan and North America (nonlocking) 200-240VAC operation
CAB-TA-250V-JP	Japan 250V AC Type A Power Cable
CAB-TA-EU	Europe AC Type A Power Cable

Product number	Description
CAB-C15-CBN	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors
CAB-TA-IN	India AC Type A Power Cable
CAB-TA-IS	Israel AC Type A Power Cable
CAB-C15-CBN-JP	Japan Cabinet Jumper Power Cord, 250 VAC 12A, C14-C15
CAB-C15-CBN-EURA	Cabinet Jumper Power Cord, 250 VAC 13A, C14-C15 Connectors
CAB-C15-CBN-CK	Cabinet Jumper Power Cord, 250 VAC 10A, C14-C15 Connectors
CAB-9K10A-EU	Power Cord, 250VAC 10A CEE 7/7 Plug, EU
CAB-9K10A-SW	Power Cord, 250VAC 10A MP232 Plug, SWITZ
CAB-9K10A-AU	Power Cord, 250VAC 10A 3112 Plug, Australia
CAB-9K10A-IT	Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy
CAB-PWR-C15-CHN-A	Power Cord, C15, Black, 2.5m, 10A, China, more

Appendix

Regulatory standards compliance

Products should comply with CE Markings according to directives 2004/108/EC and 2006/95/EC.

Safety	EMC emissions	EMC immunity
· UL 60950-1 Second Edition	· 47CFR Part 15 (CFR 47) Class A	· EN55024
· CAN/CSA-C22.2 No. 60950-1 Second Edition	· AS/NZS CISPR22 Class A	· CISPR24
· EN 60950-1 Second Edition	· CISPR22 Class A	· EN300386
· IEC 60950-1 Second Edition	· EN55022 Class A	· KN 61000-4 series
· AS/NZS 60950-1	· ICES003 Class A	
· GB4943	· VCCI Class A	
	· EN61000-3-2	
	· EN61000-3-3	
	· KN22 Class A	
	· CNS13438 Class A	

RoHS

The product is RoHS-6 compliant with exceptions for leaded-Ball Grid-Array (BGA) balls and lead press-fit connectors.

Warranty

The Cisco Nexus 9300 switch has a 1-year limited hardware warranty. The warranty includes hardware replacement with a 10-day turnaround from receipt of a Return Materials Authorization (RMA). For further information about warranty terms, visit **www.cisco.com/go/warranty**.