Cisco

C9500-32QC-A

Datasheet

Product Overview

- The Cisco Catalyst 9500 Series delivers high-performance fixed core and aggregation switching for modern digital enterprises.

- Designed for secure campus cores, it serves businesses of all sizes, from large enterprises to mid-sized organizations.

- Featuring a programmable ASIC, it achieves up to 12.8 Tbps switching and high-density 10/25/40/100G Ethernet ports.

- Advanced functions include deep packet buffering, full routing support, and robust virtualization with StackWise Virtual.

- IT teams benefit from Meraki cloud monitoring and Cisco Catalyst Center, enabling simple and flexible management options.

- Built for digital transformation, the Catalyst 9500 empowers organizations with reliable, automated, and secure network foundations.

Product Highlights

- **Silicon One Q200 ASIC Performance:** Next-gen ASIC delivers up to 12.8 Tbps switching and supports full routing and deep buffer without external memory.

- **High-Flex Port Design:** Offers native nonblocking 10/25/40/100/200/400G Ethernet ports for versatile core or edge deployment.

- **StackWise Virtual & High Availability:** Enables system virtualization, multichassis EtherChannel, and resilient operations with redundant power and fans.

- **Cloud-Ready Management:** Supports both Cisco Catalyst Center and Meraki cloud monitoring for flexible, unified switch operation.

Detailed Features

C9500-32QC-A

Component	Specification
Port Configuration	32 × 40/100G QSFP28
Switching Capacity	Up to 3.2 Tbps
Forwarding Rate	Up to 1 Bpps
Memory	16 GB DRAM, 16 GB Flash
Power Supplies	C9K-PWR-650WAC-R or C9K-PWR-930WDC-R

Next-Generation ASIC and Deep Buffering

The Cisco Catalyst 9500X model features the Silicon One Q200 ASIC, delivering switching capacities up to 12.8 Tbps with up to 8 Bpps forwarding rate. Built on 7nm technology, it offers low latency, supports up to 256,000 MAC addresses, and up to 8GB on-chip HBM deep packet buffer, ensuring outstanding sustained performance even in highly demanding network environments.

Flexible High-Speed Port Architecture

This platform supports up to 28 nonblocking 40/100G QSFP28 ports, 60 nonblocking 10/25/50G SFP56 ports, and 8 nonblocking 40/100/200/400G QSFPDD ports. The modular port configuration accommodates various network edge and core design scenarios, allowing scalable deployment as enterprise requirements grow.

High-Performance Compute and Storage

Designed with a powerful Intel 2.3-GHz x86 CPU (8 cores) and 32 GB DDR4 memory, the Catalyst 9500X supports up to 960 GB SSD for container-hosted applications. This enables local analytics, security, and automation functions without impacting switch forwarding capability, streamlining application integration in the enterprise network.

Comprehensive Routing and Migration Capability

Cisco 9500X delivers flexible IPv4/IPv6 routing, dynamic hardware forwarding tables, and large-scale L2/L3/ACL/QoS tables. It supports up to 2 million routes, providing investment protection and seamless readiness for IPv6 migration, multicast, and service-rich environments.

Built-in Security and Encryption

Line-rate 256-bit 802.1ae MACsec and WAN-MACsec are natively supported, ensuring end-to-end encrypted traffic at wire speed with no performance penalty. Hardware-based encryption safeguards sensitive data, meeting enterprise compliance and privacy needs.

Virtualization and High Resiliency

With Cisco StackWise Virtual, network system virtualization and multichassis EtherChannel deliver increased bandwidth, operational simplicity, and high-availability deployments. Redundant Platinum-rated power supplies and N+1 replaceable fan trays ensure continuous operation under heavy loads.

Advanced Application Hosting Support

Native container hosting and hardware application support allow direct deployment of analytics or security tools on the switch. This provides real-time, on-device processing, improves response time for applications, and boosts innovation at the network edge.

Cloud and GUI Management Flexibility

Catalyst 9500X offers management through both Cisco Catalyst Center and Meraki cloud. Built-in WebUI enables easy, license-free provisioning and day-1 configuration for faster rollouts, all backed by API-driven automation for consistency in large-scale environments.

Technical Specifications

Product Specifications

Feature	Value
Switching Capacity	Up to 3.2 Tbps
Forwarding Rate	Up to 1 Bpps
Total Number of MAC Addresses	Up to 82,000
Total Number of IPv4 Routes	Up to 212,000 indirect + direct
Total Number of IPv4 Host/ARP Entries	Up to 90,000
Total Number of IPv6 Routes	Up to 212,000 indirect + direct
Total Number of IPv6 Host Entries	Up to 90,000
QoS ACL Scale	Up to 16,000
Security ACL Scale	Up to 27,000
FNF Entries	Up to 98,000

Feature	Value
DRAM	16 GB
Flash	16 GB
VLAN IDs	4,000
Total SVIs	4,000
Jumbo Frame	9,216 bytes
Power Supply Selection	C9K-PWR-650WAC-R or C9K-PWR-930WDC-R
Dimensions (H x W x D)	1.73 x 17.5 x 21.2 in
Rack Units	1 RU
Input Voltage	90 to 264 VAC
Operating Temperature Minimum	32°F (0°C)
Operating Temperature Maximum	104°F (40°C)
Storage Temperature Minimum	-4°F (-20°C)
Storage Temperature Maximum	149°F (65°C)
Relative Humidity Operating	5% to 90% (ambient, noncondensing)
Relative Humidity Storage	5% to 95% (ambient, noncondensing)
Altitude (Operating)	Up to 13,000 feet at 40°C
MTBF (hours)	307,200

Product Comparison

Feature	C9500-32QC-A	C9500-24Y4C-E	C9300L-24UXG-4X-A
Fixed Ports	32 × 40/100G QSFP28	24 × 25G SFP28 + 4 × 100G QSFP28	24 × Multigigabit + 4 × 10G SFP+
Switching Capacity	Up to 3.2 Tbps	Up to 4.8 Tbps	Up to 320 Gbps
Forwarding Rate	Up to 1 Bpps	Up to 7.2 Bpps	238.09 Mpps
MAC Address Table	Up to 82,000	Up to 128,000	Up to 32,000
Power Supply Options	C9K-PWR-650WAC-R or C9K-PWR-930WDC-R	C9K-PWR-650WAC-R or C9K-PWR-930WDC-R	PWR-C1-715WAC-P or PWR-C1-1100WAC-P
Stacking Support	StackWise Virtual	StackWise Virtual	StackWise

Feature	C9500-32QC-A	C9500-24Y4C-E	C9300L-24UXG-4X-A
Management	Catalyst Center, Meraki Cloud	Catalyst Center, Meraki Cloud	Catalyst Center, WebUI
Advanced Routing	Yes	Yes	Yes (limited scale)

Accessories

Category	Accessories
Included Accessories	- Power Adapter - Console Cable - Mounting Kit
Optional Accessories	- SFP+/QSFP28 Transceiver - Redundant Power Supply - Rack Mount Rail Kit

Support & Warranty

24/7 Online Service	3-Year Premium Warranty	Professional Technical Support	100% Low Price Guarantee	100% Quality Assurance	100% Money Back Guarantee

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References

[1] Cisco Systems. (2024). Cisco Catalyst 9500 Series Switches Data Sheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-9500-series-switches/nb-06-cat9500-ser-data-sheet-cte-en.html