



Cisco C9500-40X-E Datasheet



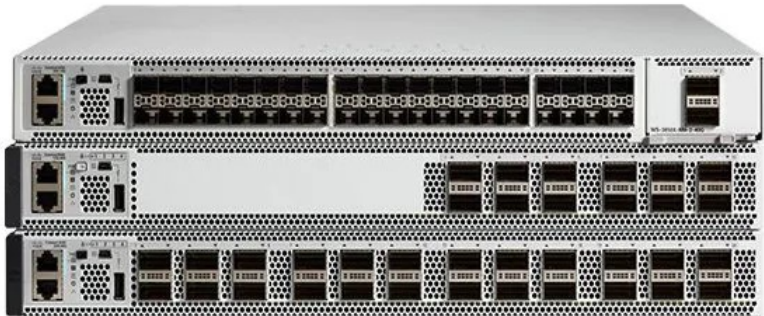
Product Overview

- The Cisco Catalyst 9500 Series delivers high-performance fixed-core and aggregation switching for enterprise networks.
- Ideal for branch offices, enterprise campuses, and medium to large organizations that need secure and scalable connectivity.
- Key features include Cisco's UADP ASIC, up to 960 Gbps switching, and deep 16 GB DRAM to handle demanding workloads.
- The 9500 Series offers advanced routing, MPLS/VPN support, StackWise Virtual, and seamless cloud monitoring via Meraki or Catalyst Center.
- Administrators benefit from flexible, simple deployment and automated device provisioning, supporting both on-prem and cloud management.
- Designed for hybrid work, the C9500-40X-E delivers the agility, security, and reliability today's distributed teams require.

Product Highlights

- **Powerful Switching Core:** Up to 960 Gbps switching and 720 Mpps forwarding rate support robust enterprise-level throughput and high-speed connectivity.
- **Rich Port Options:** Equipped with 40 × 10G SFP+ ports, the switch meets diverse aggregation and high-density access needs.
- **Enterprise-Grade Security:** Integrated MACsec hardware encryption and advanced ACLs secure data across the network core.
- **Flexible Management:** Supports WebUI, Cisco StackWise Virtual, and Meraki cloud monitoring for streamlined, centralized administration.

Detailed Features



C9500-40X-E

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Component	Specification
Switching Capacity	Up to 960 Gbps
Forwarding Rate	Up to 720 Mpps
10G SFP+ Ports	40
VLAN Support	4,000 VLAN IDs
Power Supply	AC 950W, supports redundancy



Next-Generation Switching Performance

The Cisco Catalyst 9500X models utilize the Silicon One Q200 ASIC, delivering 12.8 Tbps full-duplex switching and 8 Bpps forwarding. This advanced ASIC enables high throughput and detailed traffic management, making it suitable for even the most data-intensive core and edge environments.

Advanced ASIC and Buffering Design

With 80 MB dedicated low-latency buffer and up to 8 GB of high-bandwidth memory, the Catalyst 9500X models support deep packet buffering for smooth and lossless performance under demanding, burst-heavy traffic or data center application patterns.

Extensive Native High-Speed Port Options

These switches offer up to 28 nonblocking QSFP28 40/100G ports, 60 nonblocking SFP56 10/25/50G ports, and up to 8 nonblocking 40/100/200/400G QSFP-DD ports, serving diverse aggregation and backbone scenarios with high port density and bandwidth flexibility.

Virtualization and Redundancy

Cisco StackWise Virtual technology supports operation of multiple physical switches as a single unified system with cross-device EtherChannel, boosting bandwidth utilization, resilience, and ongoing communication even in the event of hardware failure.

Programmable and Secure Architecture

Programmable pipelines, support for advanced templates, dynamic IPv4/IPv6 table reallocation, and Layer 2/3 abstraction make the system highly adaptable. Hardware-level MACsec and 802.1ae/WAN encryption offer robust security at wire speed.

Container-Ready with High-Performance CPU

The built-in Intel 2.3GHz x86 CPU (8 cores, 32GB DDR4) and up to 960GB SSD enable local hosting of container-based applications, supporting evolving network services, edge computing, and third-party integrations.

Versatile Routing and Layer 3 Scalability

The UADP and Silicon One ASIC platforms allow up to 256,000 MAC addresses and routing scales up to 2 million routes. Layer 3 features include comprehensive support for MPLS, NAT, and multicast, making the C9500X fit for modern enterprise cores.

Operational Efficiency and High Availability

Platinum-rated (up to 94% efficient), field-replaceable power and fan modules, and seamless software upgrades (with patching and NSF/SSO) minimize downtime and maintenance windows, optimizing the operational lifecycle.

Technical Specifications

Product Specifications

Feature	Value
Switching capacity	Up to 960 Gbps
Forwarding rate	Up to 720 Mpps
Total number of MAC addresses	Up to 64,000
Total number of IPv4 routes (indirect)	Up to 64,000
Total number of IPv4 host routes	Up to 32,000
Total number of IPv6 routes (indirect)	Up to 32,000
Total number of IPv6 host routes	Up to 16,000
Multicast scale	Up to 48,000
QoS ACL scale	Up to 18,000
Security ACL scale	Up to 18,000
FNF entries	Up to 512,000
DRAM	16 GB



Feature	Value
Flash	16 GB
VLAN IDs	4,000
Total Switched Virtual Interfaces (SVIs)	4,000
Jumbo frame	9198 bytes
Power Supply Feature	Support in the Catalyst 9500 Series
AC power max rating	950W
System power consumption	850W max
Input-voltage range	AC 115 to 230 VAC
Frequency	50 to 60 Hz
Power supply efficiency	94%
Total output BTU	2901 BTU/hr (850W) max
Input current @115VAC	10A
Input current @230VAC	5A
Output ratings	12V at 79A, 12V at 3A
Output holdup time	AC = 10 ms at maximum load
Power-supply input receptacles	AC IEC 60320 C16
Power cord rating	AC 15A
Dimensions (H x W x D)	1.73 x 17.5 x 21.52 in
Rack units (RU)	1 RU
Input voltage	90 to 264 VAC
Operating temperature (min)	32°F (0°C)
Operating temperature (max)	104°F (40°C)
Storage temperature (min)	-4°F (-20°C)
Storage temperature (max)	149°F (65°C)
Relative humidity operating	5% to 90% (noncondensing)
Relative humidity nonoperating/storage	5% to 95% (noncondensing)
Altitude	Operation up to 6000 ft
MTBF (hours)	180,640



Product Comparison

Feature	C9500-40X-E	C9500-48X-E	C9500-32QC-EDU
Switching Capacity	Up to 960 Gbps	Up to 2.56 Tbps	Up to 2.56 Tbps
Forwarding Rate	Up to 720 Mpps	Up to 1,440 Mpps	Up to 1,440 Mpps
10G Ports	40 × 10G SFP+	48 × 10G SFP+	0
25G/40G/100 G Ports	0/0/0	0/0/0	32 × 40/100G QSFP28
VLAN Support	4,000 VLAN IDs	4,000 VLAN IDs	4,000 VLAN IDs
Redundant Power	Supported	Supported	Supported
StackWise Virtual	Supported	Supported	Supported
Cloud & Web Management	Meraki/Catalyst Center/ WebUI	Meraki/Catalyst Center/ WebUI	Meraki/Catalyst Center/ WebUI
Dimensions (H x W x D)	1.73 x 17.5 x 21.52 in	1.73 x 17.5 x 21.52 in	1.73 x 17.5 x 21.52 in
Application Scenario	Campus core/aggregation	High-density access/core	Core/edge with higher bandwidth

Accessories

Category	Accessories
Included Accessories	- Power Cord - Mounting Bracket - Quick Installation Guide
Optional Accessories	- SFP+ Transceiver - Redundant Power Supply - StackWise Virtual License



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References

[1] Cisco. (2023). 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>