



Cisco

C9500-40X-A

Datasheet



Product Overview

- Cisco's Catalyst 9500 Series is a top-tier enterprise switch platform, offering high performance for core and aggregation layers.
- The Catalyst 9500-40X-A targets modern networks in global enterprises, supporting hybrid workplaces, diverse endpoints, and distributed applications.
- Key specs include advanced Cisco UADP and Silicon One ASICs, up to 12.8 Tbps switching, high-bandwidth on-chip HBM, and robust x86 CPU performance.
- Differentiators include deep buffering for enterprise use, industry-first multi-speed port options, and advanced Cisco StackWise Virtual technology.
- Management is simplified with compatibility for Cisco Catalyst Center and Meraki Cloud, enabling centralized network monitoring and streamlined deployment.
- The Catalyst 9500-40X-A empowers future-ready campus cores, delivering scalable security, virtualization, and seamless performance for global business needs.

Product Highlights

- **Next-Gen UADP ASIC:** Supports programmable pipelines and flexible allocation for L2/L3 forwarding, policy rules, and advanced QoS, ready for evolving networks.
- **High-Performance Switching:** Delivers up to 6.4 Tbps capacity and up to 2 Bpps forwarding, enhanced by a 2.4GHz x86 CPU for container hosting.
- **Extensive Port Flexibility:** Up to 48 non-blocking 10/25/40/100 Gigabit Ethernet ports for diverse high-speed connectivity in enterprise networks.
- **Enhanced Redundancy and Monitoring:** Features StackWise Virtual for efficient virtualization, field-replaceable fans, platinum-rated power, and optional Meraki Cloud monitoring.

Detailed Features



C9500-40X-A

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Component	Specification
Switching Ports	40 × 10G SFP+
Rack Size	1U
Switching Capacity	Up to 6.4 Tbps
CPU	2.4GHz x86, up to 120GB USB/960GB SSD
Redundancy	Hot-swappable power supplies and fans



Programmable Enterprise ASIC

Integrated Cisco UADP ASICs enable fine-grained packet processing and adaptable pipeline, facilitating future protocol support without hardware change. This ensures platforms remain relevant as enterprise needs grow or shift, with lower upgrade complexity and better ROI.

Scalable High-Speed Switching

Switches support up to 6.4 Tbps switching capacity and 2 Bpps forwarding, handling dense data centers or core aggregation without bottlenecks. Unified buffers per ASIC mitigate burst traffic, consistently supporting applications with heavy data flows.

Advanced Application Hosting

The switch incorporates a 2.4-GHz x86 CPU with up to 120 GB USB 3.0 or 960 GB SATA SSD storage. This supports native container-based application hosting directly on the platform, allowing deep integration with security, analytics, or custom services at the network edge.

Comprehensive Port Options

With up to 32 100G QSFP28, 32 40G QSFP+, 48 25G SFP28, or 48 10G SFP+ non-blocking ports, it adapts seamlessly to evolving bandwidth and interface needs. This versatility is ideal for multi-generational campus and aggregation deployments.

Robust Layer 3 & Virtualization

Scalable Layer 3 tables, MPLS, and comprehensive routing ensure modern hybrid campus and WAN deployments. Cisco StackWise Virtual technology joins units for bandwidth scaling, operational efficiency, and non-stop resiliency with multi-chassis EtherChannel.

Precision Timing & AV Bridging

IEEE 1588v2 PTP and 802.1ba AVB enable reliable time synchronization and improved Audio/Visual experiences, addressing the growing need for converged AV/data networks in enterprise and education scenarios.

Secure, Flexible NAT & Firewall

Hardware-offloaded NAT and PAT, including static and dynamic configurations, allow flexible connectivity and robust address management without impacting forwarding performance. This secures and simplifies modern IP environments.

Efficient Power & Maintenance

Platinum-rated power supplies and field-replaceable fan trays deliver operational excellence, optimized for energy savings and quick servicing. Meraki Cloud monitoring brings remote oversight, unifying operation across sites or global campuses.

Technical Specifications

Product Specifications

Feature	Value
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	32° to 104°F (0° to 40°C) up to altitude of 10,000 feet
Altitude	Operation up to 10,000 feet at 40°C; up to 6,000 feet at 45°C
Storage Temperature	-4° to 149°F (-20° to 65°C)
Relative Humidity Operating (noncondensing)	5% to 90%
Relative Humidity Nonoperating (noncondensing)	5% to 95%
NEBS Criteria Levels	NEBS:
<ul style="list-style-type: none"> ETSI 300-019 Requirements are covered under GR-63-CORE with some deviations. 	
<ul style="list-style-type: none"> SR-3580 NEBS level 3 (GR-63-CORE, to current issue, GR-1089-CORE, to current issue) 	



Feature	Value
MTBF (hours)	277,310

Product Comparison

Feature	C9500-40X-A	C9500-16X-2Q-A	C9500-24Y4C-1A
Switching Capacity	6.4 Tbps	1.28 Tbps	12.8 Tbps
Forwarding Rate	2 Bpps	720 Mpps	4 Bpps
10G SFP+ Ports	40	16	24
40G QSFP+ Ports	0	2	0
100G QSFP28 Ports	0	0	4
Layer 3 Routing	Yes	Yes	Yes
StackWise Virtual	Supported	Supported	Supported
CPU	2.4GHz x86	2.4GHz x86	2.8GHz x86
Container Hosting	Yes	Yes	Yes
Cloud Monitoring	Meraki Option	Meraki Option	Meraki Option

Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none"> - Power Supply Module - Rack Mount Kit - Console Cable
Optional Accessories	<ul style="list-style-type: none"> - SFP+ Transceiver Modules - Redundant Power Supply - Fan Tray Unit



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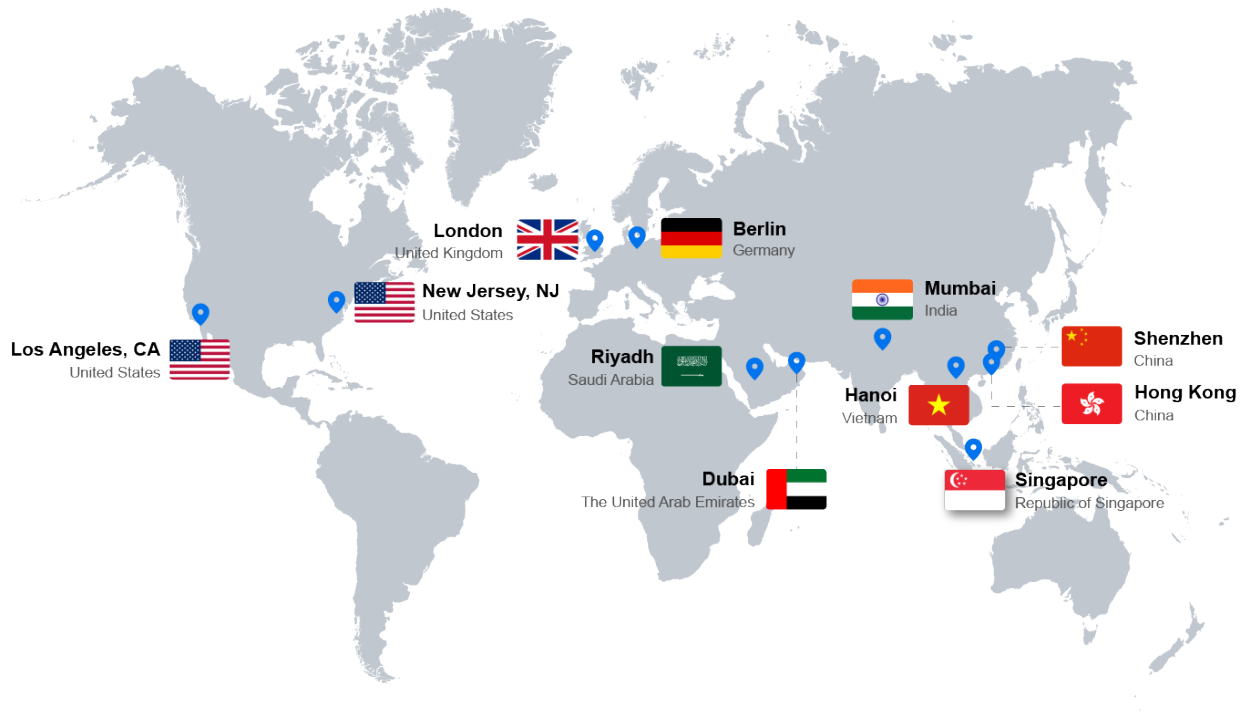
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Global Footprint

Global Warehouses & Service Centers Across Continents.



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References

[1] Cisco Systems. (2023). Catalyst 9500 Series Switches Datasheet. 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>