



Cisco

C9500-24Y4C-E

Datasheet



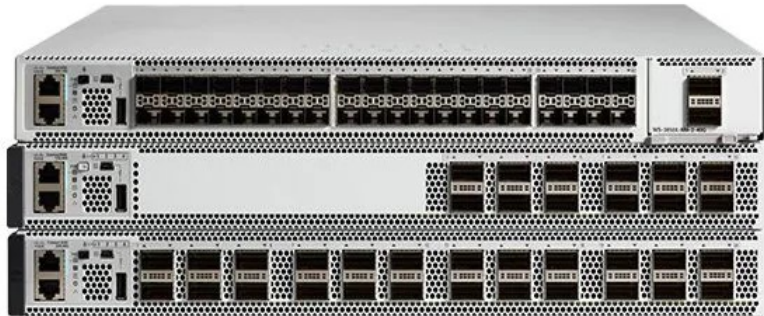
Product Overview

- The Cisco Catalyst 9500 Series is Cisco’s flagship fixed core and aggregation switch family for the digital enterprise.
- Designed for large enterprise campuses, data centers, and organizations modernizing toward hybrid workforces with diverse endpoints.
- With up to 2 Tbps switching capacity, high-density 10/25G and 40/100G ports, and support for advanced networking ASICs.
- Key features include StackWise Virtual for network system virtualization, full MPLS routing, and flexible SD-Access policy automation.
- Deployment is simplified with Meraki or Cisco Catalyst Center cloud monitoring, automated provisioning, and modular power/fan options.
- Ideal for future-ready core and aggregation, the C9500-24Y4C-E ensures scalable performance, deep security, and operational agility.

Product Highlights

- **Industry-Leading ASIC Performance:** Cisco Silicon One Q200 and UADP ASICs deliver high-capacity, programmable switching for advanced network cores.
- **Multispeed High-Density Ports:** Supports up to 24 x 10/25G SFP and 4 x 40/100G QSFP, offering flexible, high-throughput connectivity.
- **Virtualization and StackWise:** StackWise Virtual technology provides seamless system virtualization and multi-chassis aggregation for resiliency.
- **Secure Automation & Cloud-Ready:** Integrated security, SD-Access, and Meraki/Catalyst Center management enable simple, policy-driven operations.

Detailed Features



C9500-24Y4C-E

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Component	Specification
Downlink Ports	24 × 1G/10G/25G SFP28
Uplink Ports	4 × 40G/100G QSFP28
Switching Performance	Up to 2 Tbps
Forwarding Rate	Up to 1 Bpps
Power Supply Options	C9K-PWR-650WAC-R / C9K-PWR-930WDC-R



Next-Gen Silicon Architecture

Built with Cisco Silicon One Q200 and UADP ASICs, the platform achieves high switching throughput up to 12.8 Tbps full duplex and 8 Bpps forwarding rate, without external memory requirements. This architecture increases efficiency and reduces power consumption by leveraging 7nm fabrication for low footprint operation. The onboard HBM enables deep packet buffering, meeting demands of modern enterprise traffic patterns.

High-Density High-Speed Port Options

The C9500-24Y4C-E supports up to 28 native nonblocking 40/100G QSFP28 ports and up to 60 10/25/50G SFP ports, as well as versatile combinations of 40/100/200/400G QSFPDD. This high-density, multispeed support allows network architects to flexibly scale aggregation and core connectivity, optimizing infrastructure investment as edge and core speeds increase in enterprise environments.

Advanced Routing and Security Features

The switch supports a flexible, scalable routing infrastructure including up to 2 million routes and dual-stack IPv4/IPv6 dynamic allocation. Hardware-assisted ACLs and Quality-of-Service tables support up to 256,000 MAC addresses, Layer 2 and 3 security policies, and 256-bit MACsec line-rate encryption. This provides robust traffic control and data confidentiality across core and WAN links.

Virtualization and StackWise for Resilience

StackWise Virtual provides network system virtualization, enabling simplified operations and continuous availability. Multi-chassis EtherChannel across StackWise Virtual members delivers high resiliency and system bandwidth scaling. Platinum-rated power supplies and advanced N+1 fan trays further boost uptime and deployment flexibility, ensuring business continuity for critical campus cores.

Programmable and Container-Enabled Platform

The x86 CPU architecture (up to 8-cores, 32 GB DDR4 RAM, and 960 GB SSD) allows container-based hosting for network applications and automation agents. Open APIs over NETCONF, RESTCONF, and gNMI enable seamless integration with third-party automation platforms and custom enterprise workflows, future-proofing the network as application needs evolve.

Rich Multimedia and Precision Timing

IEEE 802.1ba AVB and PTP (IEEE 1588v2) ensure real-time media quality and accurate clock synchronization. These capabilities are critical for enterprise environments relying on audio/video streaming or highly synchronized distributed applications, such as financial trading or manufacturing process control.

Zero-Touch Provisioning and Cloud Management

Cisco Plug and Play, Zero-Touch Provisioning (ZTP), and Preboot Execution Environment (PXE) support full automation of image upgrades and configuration. Integration with Catalyst Center and Meraki cloud dashboards streamlines installation, maintenance, and troubleshooting from any location, minimizing IT overhead and accelerating deployment cycles.

Enhanced Software Resilience and Management

Cisco IOS XE OS provides model-driven programmability (on-box Python, YANG-based telemetry), automated provisioning, and seamless patching for critical vulnerabilities between maintenance releases. Embedded WebUI eliminates the need for CLI expertise, and integrated telemetry ensures real-time visibility for fast problem detection and resolution.

Technical Specifications

Product Specifications

Feature	Value
Switching capacity	Up to 2 Tbps
Forwarding rate	Up to 1 Bpps
Total number of MAC addresses	Up to 82,000
Total number of IPv4 routes (indirect + direct)	Up to 212,000
Total number of IPv4 host/ARP	Up to 90,000
Total number of IPv6 routes (indirect + direct)	Up to 212,000
Total number of IPv6 hosts	Up to 90,000
QoS ACL scale	Up to 16,000



Feature	Value
Security ACL scale	Up to 27,000
FNF entries	Up to 98,000
DRAM	16 GB
Flash	16 GB
VLAN IDs	4000
Total Switched Virtual Interfaces (SVIs)	4000
Jumbo frame	9216 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 18.0 in
Rack units (RU)	1 RU
Input voltage	90 to 264 VAC
Operating temperature	32° to 104°F (0° to 40°C)
Min Operating temperature	32°F (0°C)
Max Operating temperature	104°F (40°C)
Storage temperature	-4° to 149°F (-20° to 65°C)
Min Storage temperature	-4°F (-20°C)
Max Storage temperature	149°F (65°C)
Relative humidity operating (noncondensing)	5% to 90%
Relative humidity nonoperating (noncondensing)	5% to 95%
Altitude	Up to 13,000 feet at 40°C
MTBF (hours)	336,780

Product Comparison

Feature	C9500-24Y4C-E	C9500-40X-2Q-A	C9500-24Q-10E
Fixed Ports	24 × 1G/10G/25G SFP28, 4 × 40G/100G QSFP28	40 × 10G SFP+, 2 × 40G QSFP+	24 × 40G QSFP+



Accessories

Category	Accessories
Included Accessories	- Power Adapter - Mounting Rack Ears - Console Cable
Optional Accessories	- SFP+ Transceiver - QSFP28 Module - Redundant Power Supply



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References

[1] Cisco. (2023). Cisco 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>