



Cisco

C1-C4500X-16SFP+

Datasheet

Product Overview

- Cisco's Catalyst 4500-X Series positions itself as a top fixed aggregation switch for demanding campus networks.
- It is ideal for space-constrained environments such as enterprise cores, data center edge, or high-density campus backbone. Distribution partners and system integrators rely on it for high availability.
- It supports 16 SFP+/SFP ports, delivers up to 800 Gbps switching capacity, and uses a 1.5 GHz processor with 4 GB DDR2 SDRAM RAM for robust performance.
- Features like Virtual Switching System (VSS) and Easy Virtual Networks (EVN) enable flexible virtualization and advanced network segmentation.
- Enhanced management, flexible network services, and hot swappable fans and power supplies increase deployment speed and operational reliability.
- The Catalyst 4500-X Series provides a future-ready, scalable, and secure switching solution for growing businesses seeking efficiency in high-performance networks.

Product Highlights

- **Massive Switching Capacity:** Supports up to 800 Gbps switching, expandable to 1.6 Tbps with VSS for scalable, future-proof campus and aggregation networks.
- **High Availability Design:** Redundant hot swap fans, dual power supply options, and advanced failover remove single points of failure, ensuring uninterrupted uptime.
- **Deep Application Visibility:** Flexible Netflow and advanced SPAN/RSPAN offer insightful monitoring. Third-party applications are supported directly on IOS XE Software.
- **Comprehensive Security & Operations:** Integrates Cisco TrustSec, CoPP, and Smart Install Director, enabling strong security and zero-touch deployments for simplified management.

Detailed Features



C1-C4500X-16SFP+

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Component	Specification
Subtype	10 Gigabit Ethernet
Ports	16 x 1 Gigabit SFP/ 10 Gigabit SFP+
Switching Capacity	Up to 800 Gbps (1.6 Tbps with VSS)
Processor	1.5 GHz
RAM	4 GB DDR2 SDRAM



Unmatched Aggregation Performance

The Cisco C1-C4500X-16SFP+ offers up to 800 Gbps switching capacity, scalable to 1.6 Tbps with VSS. Its non-blocking architecture and wire-speed forwarding ensure efficient backbone, distribution, or data center edge aggregation. High throughput improves link utilization, minimizes bottlenecks, and supports the needs of modern digital campuses and growing cloud workloads.

Advanced Network Virtualization

Support for Cisco Easy Virtual Networks (EVN) and VSS enables flexible one-to-many and many-to-one network topologies. These features streamline large-scale segmentation, reduce configuration time, and allow separate departments or services to securely share the same physical infrastructure while remaining logically isolated for both enterprise and MSP environments.

Reliability and Business Continuity

Integrated hot-swappable dual redundant power supplies and fans, plus AC-DC failover, ensure uninterrupted operation. The switch removes single points of failure and maintains continuous network services even during component replacement or maintenance, which is critical for mission-critical financial, healthcare, and educational institution deployments.

Extensive Security Controls

Cisco TrustSec and control plane policing (CoPP) work together to prevent unauthorized access and defend against denial of service attacks. Granular policy enforcement helps protect sensitive traffic, segment users, and meet compliance for high-security network environments, including government and enterprise sectors.

Comprehensive Application Monitoring

Flexible Netflow and multi-port SPAN/RSPAN provide deep visibility into network flows and application behavior. Integration with Cisco IOS XE allows operators to host third-party network analytics or security tools directly, enhancing operational intelligence for enterprise and service provider use cases.

Efficient Resource Management

With 64K IPv4/32K IPv6 forwarding entries, 128K QoS and ACL entries, and 55K MAC address capacity, the switch handles complex policies and expansive user/device counts. Advanced management capabilities support VLANs, L2/L3 switching, QoS prioritization, and remote RMON monitoring, easing ongoing maintenance for IT teams.

Scalable and Flexible Connectivity

16 high-density 10G SFP+ ports with auto-detect enable seamless integration of 1G or 10G links. This allows migration between access and aggregation roles without hardware changes, supporting various scenarios including enterprise core, campus edge, and multifloor deployments.

Operational Efficiency & Simple Deployment

Smart Install Director and central management tools enable zero-touch switch onboarding, saving time in multi-branch rollouts. Features like USB console, SD card support, and multi-protocol management interfaces further reduce setup and operational overhead for IT teams and channel partners.

Technical Specifications

Product Specifications

Feature	Value
Device Type	Switch - 16 ports
Enclosure Type	Rack-mountable
Subtype	10 Gigabit Ethernet
Ports	16 x 1 Gigabit SFP/10 Gigabit SFP+
Switching Capacity	800 Gbps (scalable up to 1.6 Tbps with VSS)
Throughput	800 Gbps
IPv4 Routing	250 Mpps
IPv6 Routing	125 Mpps
IPv4 Forwarding Table Entries	64,000



Feature	Value
IPv6 Forwarding Table Entries	32,000
NetFlow Entries	128,000
Virtual Interfaces (VLANs)	4,094
IGMP Groups	32,000
Multicast Entries (IPv4)	24,000
Multicast Entries (IPv6)	12,000
ARP Entries	47,000
Spanning Tree Protocol Instances	10,000
QoS Hardware Queues	64
QoS Hardware Entries	128,000
ACL Entries	131,072
MAC Address Table Size	55K entries
Jumbo Frame Support	9,216 bytes
Remote Management Protocol	RMON 1, RMON 2
Features	Layer 2 switching, VLAN support, Access Control List (ACL) support, Quality of Service (QoS), front to back airflow, redundant hot swappable fans
Compliant Standards	IEEE 802.3, IEEE 802.1D, IEEE 802.1Q, IEEE 802.1p, IEEE 802.3ad (LACP), IEEE 802.1w, IEEE 802.1x, IEEE 802.3ae, IEEE 802.1s
Processor	1.5 GHz
RAM	4 GB DDR2 SDRAM
Flash Memory	2 GB (max)
Interfaces	16 x 10Gbit LAN SFP+, 1 x management (Gigabit LAN) RJ-45, 1 x USB Type A, 1 x console RJ-45
Expansion Slots	1 (total)/1 (free) x SD Memory Card; 1 (total)/1 (free) x expansion slot
Power Device	Internal power supply - hot-plug
Installed Qty (Power Supply)	0 (installed)/2 (max)
Power Redundancy	Optional
Power Redundancy Scheme	1+1 (with optional power supply)
Power Consumption (Operational)	330 Watt
MTBF	209,330 hours



Feature	Value
Compliant Standards (Safety/EMC)	CISPR 22 Class A, BSMI CNS 13438 Class A, CISPR 24, EN 61000-3-2, VCCI Class A ITE, EN 61000-3-3, EN55024, EN55022 Class A, AS/NZS 60950-1, ICES-003 Class A, RoHS, FCC CFR47 Part 15, EN300-386, UL 60950-1, AS/NZS, CSA C22.2 No. 60950-1 Second Edition, EN 60950-1 Second Edition, IEC 60950-1 Second Edition
Software Included	Cisco IOS IP Base
Min Operating Temperature	32 °F
Max Operating Temperature	104 °F
Min Storage Temperature	-40 °F
Max Storage Temperature	158 °F

Product Comparison

Feature	C1-C4500X-16SFP+	C1-N9K-C93180YC-EX	C9300-48UXM-E
Switching Capacity	800 Gbps (up to 1.6 Tbps with VSS)	3.6 Tbps	1.04 Tbps
Fixed Ports	16 x SFP+/SFP	48 x 10/25G SFP28 + 6 x 40/100G QSFP28	48 x Multigigabit + 12 x mGig/10G uplink
Layer 3 Features	Full advanced L3, VSS support	Full advanced L3	Full L3, StackWise-480
Stacking Capability	VSS (up to 2 units)	No stacking, supports ACI	StackWise-480 (up to 8 units)
Redundant Power	Supported, hot-swappable	N+1/N+N redundant PSUs	Dual redundant power, hot-swappable
Management	Smart Install, USB, SD, RMON	Cisco DCNM, CLI, SNMP	CLI, Web GUI, DNA Center
Application Scenario	Campus core, aggregation	Data center top-of-rack	Access, distribution, branch
Security Features	TrustSec, CoPP	MACsec, TrustSec	TrustSec, MACsec, 802.1X

Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none"> - Power Adapter - Rack Mount Kit - Console Cable



Category	Accessories
Optional Accessories	<ul style="list-style-type: none">- SFP+ Transceiver Modules- Redundant Power Supply- Expansion SD Memory Card



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References

[1] Cisco Systems. (2023). Cisco Catalyst 4500-X Series Switches Data Sheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-4500-x-series-switches/data_sheet_c78-696791.html