Cisco
C1-C4500X-F-32SFP+
Datasheet

Product Overview

- The Cisco Catalyst 4500-X Series is a high-performance, fixed aggregation switch, optimized for enterprise campus networks.

- It is perfect for organizations that need powerful yet space-efficient solutions, making it ideal for distributed campuses and mid-large business users.

- It delivers up to 800 Gbps switching capacity, includes modular uplinks, and supports auto-detect for 10 Gigabit and 1 Gigabit Ethernet ports.

- Key features include Cisco Easy Virtual Networks (EVN), Virtual Switching System (VSS) for advanced virtualization, and integrated network services.

- Simplified network management and flexible deployment are provided with support for zero-touch deployment and centralized management tools.

- With its robust performance and advanced virtualization, the switch helps future-proof business networks, enhancing flexibility and supporting emerging applications.

Product Highlights

- **Massive Scalability:** Supports up to 800 Gbps switching and scales to 1.6 Tbps with VSS, ensuring future-proof network expansion.

- **High Availability:** Redundant hot-swappable fans and power supplies, with seamless failover and advanced VSS/EVN high-availability architectures.

- **Application Visibility:** Flexible NetFlow and 8-port line-rate SPAN/RSPAN enable comprehensive application monitoring and deep analytics.

- **Integrated Security:** Cisco TrustSec and advanced control plane policing (CoPP) deliver robust, hardware-based network protection.

Detailed Features

C1-C4500X-F-32SFP+

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Component	Specification
Management Port	10/100/1000 Base-T
USB Port	Type A (storage and boot)
Max USB Storage	Up to 4 GB
Power Supply	Dual, redundant, hot-swappable
Fans	Field replaceable (5 fans)

Unmatched Core Performance

The Catalyst 4500-X delivers Up to 800 Gbps switching capacity and is capable of scaling up to 1.6-Tbps with Virtual Switching System (VSS) technology. This ensures high throughput for evolving enterprise demands and traffic growth, making it a robust backbone for both high-density and core aggregation roles in modern networks.

High-Availability Architecture

It features comprehensive high-availability capabilities, including redundant, hot-swappable power supplies and fans. The devices resilience is further enhanced by AC to DC and DC to AC failover, effectively eliminating single points of failure and ensuring continuous uptime for critical business applications.

Advanced Network Virtualization

Supporting both Cisco Easy Virtual Networks (EVN) and Virtual Switching System (VSS), it allows flexible one-to-many or many-to-one network segmentation. This virtualization enables secure multitenant environments and simplifies network management for converged enterprise and campus deployments.

Comprehensive Application Monitoring

Flexible NetFlow provides granular traffic analysis, while up to eight line-rate SPAN/RSPAN sessions allow for simultaneous, bidirectional monitoring. Together with Cisco IOS XEs capability to host third-party applications, this delivers advanced telemetry for application optimization and rapid troubleshooting.

Integrated Robust Security

Support for Cisco TrustSec technology delivers network-wide security policy enforcement. Advanced control plane policing (CoPP) helps mitigate DoS attacks, and strong port-based and hardware-level controls ensure critical network assets remain protected at all times.

Scalable Modular Uplinks

Modular uplinks and auto-detection of both 10GbE and 1GbE simplify future upgrades and migrations. The optional expansion module allows easy scalability without service disruption, ensuring alignment with business growth and network evolution.

Streamlined Operations

Zero-touch deployment is available with Smart Install Director, reducing manual configuration and speeding up rollouts for new switches and stacks. Centralized management further simplifies daily operations and minimizes total cost of ownership for IT teams.

Full-Lifecycle Investment Protection

Future-ready architecture combining stateful software upgrades, ample memory resources, and advanced QoS/ACL capabilities ensures the switch remains a reliable core asset as network demands and technologies continue to advance.

Technical Specifications

Product Specifications

Feature	Value
Expansion Module (Optional)	8x10 GE SFP+/SFP - C4KX-NM-8SFP+
Management Port	10/100/1000 Base-T
USB Port	Type A (storage and boot) up-to 4 GB
Dual Power Supply	Yes
Field Replaceable Fans	Yes (5 fans)
Fan Redundancy	No performance impact with single fan failure
System Throughput	Up to 800 Gbps
IPv4 Routing in Hardware	Up to 250 Mpps
IPv6 Routing in Hardware	Up to 125 Mpps
L2 Bridging in Hardware	Up to 250 Mpps
Media Access Control (MAC) Entries	55K
Forwarding Entries	32x10 GE Port Base SKU: IPv4: 256K, IPv6: 128K

Feature	Value
Flexible Netflow Entries	128K
Switched Port Analyzer (SPAN), Remote Switched Port Analyzer (RSPAN)	8 line rate bidirectional sessions (ingress and egress)
Total VLANs	4094
Total Switched Virtual Interfaces (SVIs)	4094
IGMP groups	32K
Multicast routes	32x10 GE Port Base SKU: IPv4: 32K, IPv6: 32K
Dynamic Host Configuration Protocol (DHCP) Snooping Entries	12K (DHCP snooping bindings)
ARP Entries	47K
Spanning Tree Protocol Instances	10K
Jumbo Frame Support for Bridged and Routed Packets	Up to 9216 bytes
High Availability Solution	Virtual Switching System (VSS)
Number of stackable switches in VSS	Up to 2
VSS Throughput	Up to 1.6 Tbps
Virtual Switch Link	1GE or 10GE
Max number of Virtual Switch Links	8
In-Service Software Upgrade Across the switches	Nonstop Forwarding with Stateful Switchover Across the switches
Onboard Memory (SRAM DDR-II)	4 GB
Port Buffers	32-MB Shared Memory
CPU	Dual Core 1.5 GHz
NVRAM	2 GB
Optional External Memory (SD Card)	2 GB
Port Queues	8 Queues/Port
CPU Queues	64
QoS Entries	128K (64K ingress and 64K in egress) Shared with ACL
Aggregate Rate-Limiting	Ingress port or VLAN and egress VLAN or Layer 3 port
Rate-Limiting Level Types	Committed Information Rate (CIR), Peak Information Rate (PIR)
Aggregate Traffic Rate-Limiting Policers (1K=1024)	16K
Flow-Based Rate-Limiting Method	Number of Rates Supported using flow-records in the classification criteria and policing action

Feature	Value
Qos Policy Enforcement	Per Port or Per Vlan or Per Port, Per VLAN Granularity
Class of Service (CoS)	Yes
Differentiated Services Code Point (DSCP)	Yes
Port Security	Yes
IEEE 802.1x and 802.1x Extensions	Yes
VLAN, Router, and Port ACLs	Security ACL Entries (1K=1024)
Unicast Reverse Path Forwarding (uRPF) Check in Hardware	Yes 128K (64K ingress and 64K in egress) Shared with QoS
CPU Rate Limiters (DoS Protection) Includes Control Plane Policing	Yes
Private VLANs	Micro Flow Policer
CPU HW Rate Limiters by Packet Per Second (pps) and Bit Rate Policers (bps)	Yes
Control Plane Policing (CoPP) for Multicast ACL Labels	Yes
Supported using flow records in the class-map	Yes. Supported in hardware control-plane policing (CoPP)

Product Comparison

Feature	C1-C4500X-F-32SFP+	C1-C4500X-F-16SFP+	C9200L-24PXG-4X-E
Fixed Ports	32 x 10GE SFP+	16 x 10GE SFP+	24 x 1GE PoE+ + 4 x 10GE SFP+
Switching Capacity	Up to 800 Gbps	Up to 800 Gbps	160 Gbps
Stacking/ Virtualization	VSS up to 2 units (1.6 Tbps)	VSS up to 2 units (1.6 Tbps)	StackWise-80 up to 8 units
High Availability	Redundant PSU & Fans	Redundant PSU & Fans	Field-replaceable PSU & Fans
Application Monitoring	Flexible NetFlow, 8 x SPAN	Flexible NetFlow, 8 x SPAN	NetFlow Lite
Advanced Security	TrustSec, CoPP, 802.1x	TrustSec, CoPP, 802.1x	802.1x, TrustSec (Lite)
Layer 3 Features	Full IPv4/IPv6, OSPF, BGP, VSS	Full IPv4/IPv6, OSPF, BGP, VSS	OSPF, EIGRP, RIP, BGP (Lite)
Modular Uplinks	Yes	Yes	Fixed
Management	IOS XE, Zero-Touch, Smart Install	IOS XE, Zero-Touch, Smart Install	Web UI, DNA ready
PoE Support	No	No	Yes (full)

Accessories

Category	Accessories
Included Accessories	- Dual Power Supplies - Rack Mount Kit - Console Cable
Optional Accessories	- 8x10GE SFP+ Expansion Module - SFP+ Transceivers - Spare Fan Kit

Support & Warranty

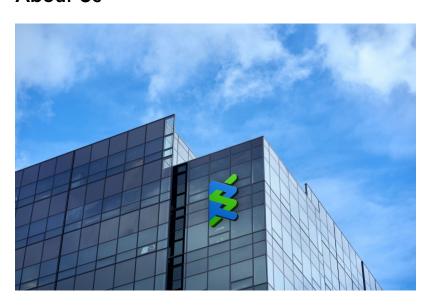| 24/7 Online Service | 3-Year Premium Warranty | Professional Technical Support | 100% Low Price Guarantee | 100% Quality Assurance | 100% Money Back Guarantee |

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References

[1] Cisco Systems. (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