C9600X-SUP-2 DataSheet

Cisco Catalyst C9600X-SUP-2 Supervisor Engine offers 6.4 Tbps/slot, 400G-ready, dual 10G management ports, and advanced security for Catalyst 9600 modular switches. Ideal for scalable campus and core upgrades.

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C9600X-SUP-2 Description

C9600X-SUP-2 (Catalyst 9600X Supervisor Engine 2) is the next-generation control engine for Cisco Catalyst 9600 modular switches, delivering up to 6.4 Tbps per slot and 25.6 Tbps system switching capacity. Based on Cisco Silicon One Q200 ASIC, it enables industry-leading 400G/200G/100G/40G high-speed networking, advanced Layer 2/3 routing, MACsec and WAN MACsec encryption, and powerful automation for campus, core, and data center deployments. Featuring dual 10G SFP+ management ports, 32GB RAM, 8GB high-bandwidth memory, and full support for container-based application hosting, C9600X-SUP-2 empowers scalable, secure, and future-ready campus backbone and service provider environments.

Product Highlights

System Switching Capacity

Per-slot Switching Capacity

Forwarding Rate

Quick Specs

Parameter	Description

Product ID	C9600X-SUP-2
Supported Chassis	Cisco Catalyst 9606R
Ports	2 x 10G SFP+ Mgmt, 1 x RJ45 Mgmt, 2 x USB 3.0, 1 x RJ45 Console, 1 x Mini USB Console
Max Slot Bandwidth	6.4 Tbps (3.2 Tbps full-duplex) per slot
System Switching Capacity	Up to 25.6 Tbps (12.8 Tbps full-duplex)
CPU / Memory	Intel 2.7 GHz x86, 8 cores, 32 GB DRAM, 16 GB Flash, SATA SSD option, 8 GB HBM
Dimensions (H x W x D)	1.7 x 15.0 x 13.41 in. (4.32 x 38.1 x 34.06 cm)
Weight	5.45 kg (12.02 lbs)
Operating Temperature	-5° to 45°C (up to 6000 ft), -5° to 40°C (up to 10,000 ft)
MTBF	305,880 hours

Key Features

Industry-Leading 6.4 Tbps/Slot Bandwidth

Delivers up to 6.4 Tbps per slot and 25.6 Tbps system switching capacity for maximum scalability and non-blocking performance in demanding networks.

Silicon One Q200 ASIC & 400G-Ready

Built on Cisco's next-gen Silicon One Q200 ASIC with 8GB HBM, supporting 400G/200G/100G/40G, ultra-low latency, and deep packet buffers for large-scale campus or DCI.

Advanced Routing & Programmability

Supports extensive IPv4/IPv6 routing, flexible SDN, virtualization, and full model-driven programmability via NETCONF, RESTCONF, gNMI, and YANG.

Full-Spectrum Security: MACsec & WAN

MACsec

Enables hardware-based MACsec-256 and WAN MACsec encryption (with license), safeguarding campus and inter-site traffic with end-to-end secure transport.

High-Performance CPU & Memory

Equipped with Intel 2.7 GHz x86 CPU, 8 cores, 32GB DRAM, 8GB HBM, 16GB Flash, and optional SATA SSD for analytics, telemetry, and application hosting.

Ultimate Availability & Automation

Supports 1+1 supervisor redundancy, seamless in-service upgrades (ISSU), hot swapping, advanced environmental monitoring, and RFID for asset management.

Product Comparison

Compatibility Information	C9600-SUP-1	C9600X-SUP-2
Chassis compatibility	Supported on Cisco Catalyst 9600 Series 6 Slot Chassis (C9606R).	
Minimum software requirements	Cisco IOS XE Gibraltar 16.11.1 and later releases.See the Release Notes for Cisco Catalyst 9600 Series Switches document for the latest software release requirements.	Cisco IOS XE 17.7.1 and later releases.
Chassis slot restrictions	C9606R: Slots 3 and 4 only (redundant supervisor engines supported). The primary supervisor engine can be installed in either slot.	
Bandwidth per slot	2.4 Tbps full-duplex per slot	6.4 Tbps full-duplex per slot
Memory	Dynamic Random-Access Memory (DRAM): 16 GB	Dynamic Random-Access Memory (DRAM): 32 GB
Onboard flash: 16 GB	Onboard flash: 16 GB	

Line Card compatibility	C9600-LC-40YL4CDC9600-LC-24CC9600-LC-48YLC9600-LC-48TXC9600-LC-48S	C9600-LC-40YL4CDC9600-LC-24CC9600-LC-48YLC9600-LC-48TX

Front Panel Components

1	Supervisor engine LEDs	6	10G SFP+ management ports
2	Reset button	7	RJ-45 console port
3	USB 3.0 Type A ports	8	Ejector levers
4	RJ-45 Ethernet management port	9	RFID embedded on the left ejector lever
5	USB mini Type B console port	–	–
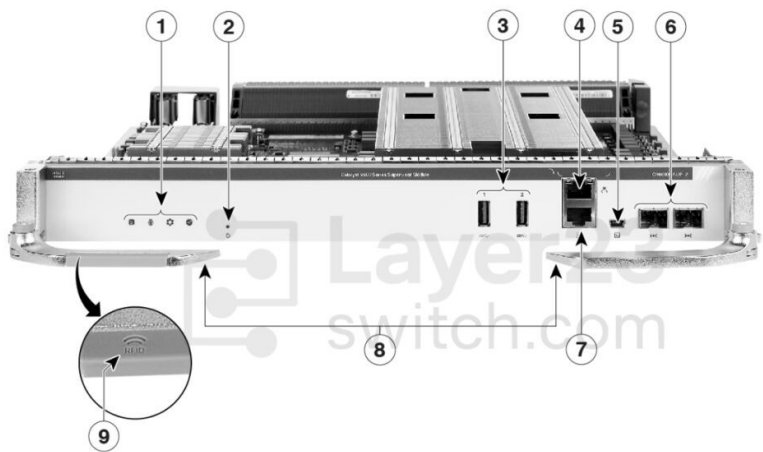
Specification

Parameter	Value	Parameter	Value
Product ID	C9600X-SUP-2	Supported Chassis	Catalyst 9606R
Max Slot Bandwidth	6.4 Tbps (3.2 Tbps full-duplex)	System Switching Capacity	25.6 Tbps (12.8 Tbps full-duplex)
CPU / Memory	Intel 2.7 GHz x86, 8C, 32GB DRAM, 8GB HBM	SSD Support	Optional SATA SSD (up to 960GB)
Management Ports	2 x 10G SFP+ Mgmt, 1 x RJ45 Mgmt	Console Ports	1 x RJ45 Console, 1 x Mini USB Console
USB Ports	2 x USB 3.0	Supervisor Redundancy	1+1 (SSO, ISSU, hot swap)
ASIC	Cisco Silicon One Q200	MACsec / WAN MACsec	Yes (256-bit, WAN MACsec, license)
Dimensions (H x W x D)	1.7 x 15.0 x 13.41 in. (4.32 x 38.1 x 34.06 cm)	Weight	5.45 kg (12.02 lbs)
Operating Temp.	-5° to 45°C (up to 6000 ft), -5° to 40°C (up to 10,000 ft)	Humidity	10% to 95%, non-condensing
MTBF	305,880 hours	Minimum Software	IOS XE 17.7.1
Automation	NETCONF, RESTCONF, gNMI, YANG, ZTP	Application Hosting	Yes (Containers, SSD, 8GB HBM)

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