



Cisco

C1-C6880-X-LE

Datasheet



Product Overview

- The Cisco Catalyst 6880-X Series is engineered for advanced network core and aggregation deployments, delivering high performance and scalability.
- Ideal for large enterprises, service providers, and campus backbone networks seeking scalable bandwidth and robust network security.
- Supporting four port card slots, the platform reaches up to 2Tbps switching capacity and 220Gbps per slot, with a maximum of 80 x 10G or 1G Ethernet ports.
- Key features include Cisco TrustSec security, MACsec encryption, role-based ACL, and advanced virtualization with MPLS and L3 VPN.
- Centralized management, online insertion/removal, and Smart Install Director simplify deployment and reduce ongoing maintenance efforts.
- The 6880-X Series empowers organizations to scale efficiently with future-ready security, flexible networking, and superior reliability.

Product Highlights

- **Flexible Port Density:** Easily scale from 16 to 80 10G/1G ports with modular design; choose standard or enhanced FIB/ACL/NetFlow table base models.
- **Investment Protection:** 1G SFP ports can upgrade to 10G SFP+ without replacing hardware, maximizing ROI and easing future migrations.
- **Hot-Swappable Modules:** Port cards are hot swappable, enabling upgrades and expansions with zero network downtime.
- **Comprehensive Scalability:** Supports up to 220Gbps per slot and up to 2Tbps switching capacity, doubling to 4Tbps with VSS technology.

Detailed Features



C1-C6880-X-LE

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Component	Specification
Number of Port Card Slots	4
Switching Capacity	Up to 2Tbps
Performance per Slot	Up to 220 Gbps per port card slot
Maximum Port Density	80 x 10G/1G (per chassis)



Platform Scalability

Cisco Catalyst 6880-X supports up to 220Gbps slot capacity for each port card, allowing for significant expansion without sacrificing performance. Maximum switching capacity hits 2Tbps, which can be doubled to 4Tbps using Cisco's VSS (Virtual Switching System) technology for demanding core and aggregation deployments.

Enterprise Security Integration

The platform incorporates Cisco TrustSec (CTS), IEEE 802.1AE MACsec encryption, and role-based ACLs. Combined with Control Plane Policing (CoPP) and Cisco ISE integration, it delivers multi-layered defense and centralized policy management ideal for enterprise environments requiring regulatory compliance and data integrity.

Comprehensive Virtualization Support

Features are built-in for L2/L3 VPN, full MPLS support, Enhanced Virtual Network (EVN), VRF-aware NAT and Netflow, GRE tunneling for IPv4/IPv6, and dynamic Layer 2 extensions via VPLS. These enable tailored segmentation and security for large, diverse user groups and critical applications.

Application Visibility & Control

Integrated Flexible and Sampled NetFlow provides granular traffic analysis. Advanced Application Visibility and Control (AVC) enables real-time network analytics, monitoring, and policy enforcement, helping administrators optimize service quality and resolve issues quickly.

Smart Operations & Automation

Support for Catalyst Instant Access lets remote switches act as line cards of the 6880-X. Smart Install Director automates zero-touch deployment for access switches, reducing manual effort and consistent configuration across large networks.

High Availability & VSS

Two switches can form a single, highly available VSS instance, eliminating STP and FHRP dependencies for rapid failover. Management is simplified through a single control plane, minimizing downtime and expediting maintenance tasks in dynamic environments.

Redundant & Flexible Hardware

The chassis supports hot-swappable, redundant power supplies and port cards, ensuring uninterrupted network availability even during upgrades or hardware faults. OIR capability enables easy hardware changes with no service interruption.

Global Compliance & Robust Design

The 6880-X meets major safety and EMC certifications (UL, CE, EN, FCC), is engineered for challenging environments, and provides comprehensive environmental tolerance from temperature and humidity controls to altitude operation and network management features.

Technical Specifications

Product Specifications

Feature	Value
Number of port card slots	4
Switching Capacity	Up to 2Tbps
Performance (per port card slot)	The chassis is capable of supporting up to 220 Gbps per port card slot.
16 port 10G port cards and base module support	80 Gbps
Maximum Port Density Per Chassis (10 Gigabit Ethernet ports)	Up to 80 x 10 Gigabit Ethernet ports
Maximum Port Density Per Chassis (1 Gigabit Ethernet ports)	Up to 80x 1 Gigabit Ethernet ports
Maximum Port Density (VSS) (10 Gigabit Ethernet ports)	Up to 158x 10 Gigabit Ethernet ports
Maximum Port Density (VSS) (1 Gigabit Ethernet ports)	Up to 158x 1 Gigabit Ethernet ports



Feature	Value
Power Supply Compatibility (AC)	3000W
Power Supply Compatibility (DC)	3000W
Module Compatibility	All modules based on the software release in the system
Reliability and Availability (OIR supported)	OIR supported for redundant power supplies and port cards.
Physical dimensions (H x W x D) (Inches)	8.75x 17.35 x 23
Physical dimensions (H x W x D) (Centimeters)	22.23 X 44.07 X 58.42
Rack Units (RU)	4.85
Weight (Chassis with 2 power supplies and fan tray)	64 lbs/29.03 kgs
Weight (Chassis with 2 power supplies, fan tray with four port cards)	88 lbs/39.92 kgs
Input Voltage (VAC Range)	100 to 240 VAC
Input Voltage (VDC Range)	-48 to -60 VDC
Safety Certifications	UL 60950 Second Edition; CAN/CSA-C22.2 No. 60950 Second Edition; EN 60950 Second Edition; IEC 60950 Second Edition; AS/NZS 60950
EMC Certifications	FCC Part 15 (CFR 47) Class A; VCCI Class A; EN55022 Class A; CISPR 22 Class A; CE marking; AS/NZS 3548 Class A; ETS300 386; EN55024; EN61000-6-1; EN50082-1
NEBS/ETSI Compliance	GR-1089-Core NEBS Level 3; ETS 300 019 Storage Class 1.1; ETS 300 019 Transportation Class 2.3; ETS 300 019 Stationary Use Class 3.1
ATIS Pb-Free and Energy Efficiency	ATIS-0600020.2010 Pb Free circuit packs; ATIS-0600015-2009 General Energy Efficiency Requirements (TEER); ATIS-0600015.03-2009 Switch and Router Energy Efficiency; ATIS-0600015.01-2009 Server Energy Efficiency; VZ.TPR.9205 Verizon Energy Efficiency Requirements for Telecommunication Equipment (TEEER)
Network Management	ETHERLIKE-MIB (RFC 1643); IP-MIB and IP-FORWARD-MIB for IPv6; IF-MIB (RFC 1573); Bridge MIB (RFC 1493); CISCO-STACK-MIB; CISCO-VTP-MIB; CISCO-CDP-MIB; RMON MIB (RFC 1757); CISCO-PAGP-MIB; CISCO-STP-EXTENSIONS-MIB; CISCO-VLAN-BRIDGE-MIB; CISCO-VLAN-MEMBERSHIP-MIB; ENTITY-MIB (RFC 2037); HC-RMON; RFC1213-MIB (MIB-II); SMON-MIB
Operating Temperature	32°F to 104°F (0 to 40°C)
Storage Temperature	-4 to 149°F (-20 to 65°C)
Thermal Transition (hot to cold)	0.5°C per minute



Feature	Value
Thermal Transition (cold to hot)	0.33°C per minute
Relative Humidity (operating, ambient, noncondensing)	5% to 90%
Relative Humidity (nonoperating and storage, ambient, noncondensing)	5% to 95%
Operating Altitude (certified)	0 to 6500 ft (0 to 2000 m)
Operating Altitude (designed and tested)	-200 to 10,000 ft (-60 to 3000 m)

Product Comparison

Feature	C1-C6880-X-LE	C6807-XL	C1-C4503E-S7L+48V+
Switching Capacity	Up to 2Tbps (4Tbps with VSS)	11.4Tbps	928Gbps
Max Port Density	80 x 10G/1G (per chassis)	Up to 192 x 1G/10G	Up to 170 x 10/100/1000
Port Card Slots	4	7	3
Hot-Swappable Modules	Yes	Yes	Yes
Power Supply (Max)	3000W AC/DC	up to 7500W AC	1400W AC
Security Features	TrustSec, MACsec, role-based ACL	TrustSec, MACsec	Standard ACL
Virtualization	MPLS, L2/L3 VPN, VSS support	VSS, MPLS	VRF Lite
Management Tools	Smart Install, centralized management	Smart Install, integrated tools	Web/CLI/SNMP
Redundant Power	Supported	Supported	Supported
Operating Temperature	0 to 40°C	0 to 40°C	0 to 45°C



Accessories

Category	Accessories
Included Accessories	- Power Supplies - Fan Tray - Rack Mount Kit
Optional Accessories	- SFP/SFP+ Modules - Additional Port Cards - Redundant Power Supply



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References

[1] Cisco Systems. (2023). Cisco Catalyst 6880-X Series Switches Data Sheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-6880-x-switch/data_sheet_c78-728228.html