

Cisco WS-C4948E

Datasheet



Product Overview

- The Cisco Catalyst 4948E switch belongs to Cisco's data center product line, delivering fixed-configuration, high-performance switching.
- Designed for server aggregation, it targets enterprise data centers, financial networks, and campus environments needing reliable rack-level switching.
- Key features include 48 wire-speed 10/100/1000BASE-T ports, 4 SFP ports, and a 1RU form factor, ensuring compact yet powerful connectivity.
- Advanced TCAM resources with 64,000 entries provide robust support for QoS, security, and large routing tables, ideal for complex networks.
- Operational flexibility is enhanced with redundant 1+1 hot-swappable AC/DC power supplies and a modular fan tray for higher system uptime.
- The Cisco Catalyst 4948E offers consistent performance and future-ready scalability for critical applications in demanding enterprise or edge deployments.

Product Highlights

- **Wire-Speed Gigabit Performance:** Delivers 96 Gbps switching and 72 mpps forwarding at Layer 2-4 for latency-sensitive enterprise workloads.
- **Power Supply Redundancy:** 1+1 hot-swappable internal AC/DC power supplies ensure maximum system uptime with A-to-B failover options.
- **Comprehensive Management Tools:** Centralized device, VLAN, traffic, and policy management through CLI, SNMP, CiscoWorks, and web tools.
- **Deployment Flexibility:** Supports AC/DC mix, redundant fans, and front-accessible hot-swappable modules for easy serviceability and maintenance.

Detailed Features



WS-C4948E

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Component	Specification
Switching Capacity	96 Gbps
Forwarding Rate	72 Mpps
Ports	48 × 10/100/1000BASE-T, 4 × SFP
Power Supply	1+1 hot-swappable AC/DC (redundant)
Form Factor	1RU



High Throughput and Low Latency

Cisco Catalyst 4948E provides up to 96 Gbps switching fabric and 72 mpps wire-speed forwarding rate. This ensures high efficiency in Layer 2 to Layer 4 packet processing, supporting bandwidth-intensive applications and real-time traffic with minimal delay. The hardware-based Cisco Express Forwarding (CEF) architecture offers consistent data delivery and high capacity.

Redundant Power and Cooling Design

The switch supports dual internal hot-swappable AC or DC power supplies in a 1+1 redundant configuration for continuous operation. Mixed-mode support allows flexible combinations of AC and DC supplies. Redundant hot-swappable fan tray with four fans ensures service continuity even during component replacement or failure, maximizing availability.

Advanced Multilayer Switching Features

With support for IP routing protocols including RIP, EIGRP, OSPF, and BGP, plus advanced services like MPLS and PIM, the Catalyst 4948E enables intelligent Layer 3/4 traffic handling. The inclusion of 64,000 TCAM entries extends feature scalability, supporting large routing tables, ACLs, and policy-based routing even at wire speed.

Flexible Port and Uplink Options

The system comes with 48 wire-speed auto-negotiating 10/100/1000BASE-T ports and four SFP uplink slots for 1000BASE-X connectivity. These allow tiered architectures, facilitating seamless connections between access, aggregation, and core networks. SFP slots support a range of fiber or copper transceivers, increasing deployment versatility.

Comprehensive Management and Security

Management interfaces include 10/100 console and dedicated management ports, facilitating in-band and out-of-band management. Features such as SNMP, Telnet, BOOTP, TFTP, and CiscoWorks integration provide robust administrative control. Rapid image reload from TFTP supports disaster recovery scenarios and simplified upgrades.

Robust VLAN and Policy Features

The switch supports up to 4,096 active VLANs and 32,000 MAC entries, accommodating large or segmented network topologies. 32,000 hardware-accelerated ACL and QoS entries guarantee fine-grained control over traffic, access policies, and service prioritization in high-density server environments.

Reliable Hardware and Environmental Adaptation

The system incorporates 16 MB dynamic shared buffer for optimized traffic, operates in temperatures from 0°C to 40°C, and supports altitudes up to 2,000 meters. Its physical construction in a 1RU chassis saves rack space while providing reliable operation under diverse enterprise conditions.

Future-Ready Scalability and Investment Protection

With its large TCAM and flexible power options, the Catalyst 4948E can scale to meet increasing network service requirements. It supports both IPv4 and software-based IPv6 capabilities, ensuring ongoing compatibility as protocol standards evolve, delivering long-term value for business-critical deployments.

Technical Specifications

Product Specifications

Feature	Value
Switching Capacity	96 Gbps
Forwarding Rate	72 Mpps
Form Factor	1RU
Ports	48 × 10/100/1000BASE-T (RJ45)
Ports (continued)	4 × SFP (1000BASE-X)
Uplinks	4 SFP slots (no TwinGig Converter support)
Multilayer Switching Features	IP Base: RIP, EIGRP, OSPF, BGP; Enterprise Services: Advanced QoS, PIM, MPLS
IPv6 Support	Software-based only
MAC Address Table	32,000 entries



Feature	Value
VLANs	4,096 active / 4,096 IDs
STP Instances	1,500
Shared Buffer	16 MB dynamic
CPU	266 MHz
SDRAM	256 MB
Flash	64 MB
Management Ports	1 × 10/100 console, 1 × 10/100 management
SPAN Sessions	2 ingress / 4 egress sessions
ACL/QoS Entries	32,000 (hardware-accelerated)
USB/CF Slot	Not supported
Dimensions (W × D × H)	17.29 in (43.92 cm) × 16.14 in (40.99 cm) × 1.712 in (4.445 cm)
Operating Temperature	32°F to 104°F (0°C to 40°C)
Operating Humidity	10% to 90% non-condensing
Operating Altitude	-60 m to 2,000 m
Minimum IOS Version	12.2(20)EWA or later

Product Comparison

Feature	WS-C4948E	C1000-48T-4X-L	C9300L-48P-4X-A
Switching Capacity	96 Gbps	176 Gbps	104 Gbps
Forwarding Rate	72 Mpps	130.95 Mpps	77.38 Mpps
Fixed Ports	48 × 10/100/1000BASE-T + 4 × SFP	48 × 10/100/1000BASE-T + 4 × 10G SFP+	48 × 10/100/1000BASE-T + 4 × 10G SFP+
PoE Support	No	No	Yes (PoE+)
Redundant Power	Yes, 1+1 hot-swappable	Yes, dual support	Yes, dual support
Management Features	CLI, SNMP, CiscoWorks	CLI, Web UI, SNMP	CLI, Web UI, SNMP
Layer 3 Routing	RIP, EIGRP, OSPF, BGP	Static, RIP, OSPF, EIGRP	Static, RIP, OSPF, EIGRP, VRRP
Physical Size (RU)	1RU	1RU	1RU



Feature	WS-C4948E	C1000-48T-4X-L	C9300L-48P-4X-A
VLAN Capacity	4,096	4,094	4,094

Accessories

Category	Accessories
Included Accessories	<ul style="list-style-type: none">- Power Cable- Rack Mount Kit- Console Cable
Optional Accessories	<ul style="list-style-type: none">- SFP Transceiver- Redundant Power Supply- Spare Fan Tray



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References

[1] Cisco Systems. (2023). Cisco Catalyst 4900 Series Switches Data Sheet. Retrieved from https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-4900-series-switches/product_data_sheet0900aecd8017a72e.html