

Cisco Catalyst 4900 Series Switching Solutions

At-A-Glance

The Cisco® Catalyst® 4900 Series switches (Figure 1) are fixed-configuration switches offering high-performance, rack-optimized server switching for data centers of all sizes.

Figure 1. Cisco Catalyst 4900 Series Switch



Key Features

- Low-latency and wire-speed switching
- Up to 48 10/100/1000 ports with 4 Small Form-Factor Pluggable (SFP) ports or 48 10/100/1000 ports with two 10 Gigabit Ethernet ports
- Dual, hot-swappable internal AC or DC power supplies
- Hot-swappable fan trays

Key Benefits

Exceptional Reliability—Redundant hot-swappable internal AC or DC power supplies offer nonstop operation; 1 + 1 power supply design provides A-to-B failover when power supplies are connected to different circuits; AC and DC power supplies can be mixed in the same unit for maximum deployment flexibility; a hot-swappable fan tray with includes redundant fans for additional serviceability and availability.

Wire-Speed Performance—Wire-speed throughput on all ports from 96 Gbps to 136 Gbps with low latency for data-intensive applications; switching performance is maintained regardless of the number of route entries or Layer 3 and 4 services enabled; hardware-based Cisco Express Forwarding routing architecture allows for increased scalability and performance.

Layer 2–3 Services—Advanced routing protocols such as Open Shortest Path First (OSPF), Enhanced Interior Gateway Routing Protocol (EIGRP), Border Gateway Protocol (BGP), static routing, and Policy Based Routing (PBR) increase network scale; equal-cost routing as well as multicast routing such as Protocol Independent Multicast (PIM) maximize network resources; Virtual Route Forwarding lite (VRF-lite) secures traffic.

Comprehensive Management—The Catalyst 4900 Series switch can be managed with Cisco Network Assistant, CiscoWorks solutions, and embedded CiscoView; includes a single, dedicated 10/100 console port and a single, dedicated 10/100 management port for offline disaster recovery; remote in-band management is available with Simple Network Management Protocol (SNMP),

Telnet client, BOOTP, and Trivial FTP (TFTP); support for local or remote out-of-band management delivered through a terminal or modem attached to the console interface; management port helps enable switch to reload a new image from a TFTP server within seconds.

Security—Dynamic Host Configuration Protocol (DHCP) snooping allows only trusted ports to relay DHCP messages, eliminating rogue DHCP servers; Network Access Control (NAC) prevents the propagation of costly worms and viruses; Dynamic ARP inspection and IP Source Guard prevent against man-in-the-middle attacks; 802.1x and identity-based network services allow only authorized persons on the network; port security prevents MAC address flooding attacks. Control Plane Policing prevents DoS attack.

Customers

The Cisco Catalyst 4900 Series solutions are ideal for:

- Data center deployments requiring **wire-speed, top-of-rack aggregation for servers**
- Customers who expect **resiliency, security, and scalability**

Product Review

NETWORKWORLD®

10 GIGABIT ETHERNET SWITCH

CATALYST 4948-10GE

Cisco www.cisco.com

NetResults 4.75

\$30,000 as tested.

Pros: Low latency and line-rate throughput; innovative security features.

Cons: Pricey; not expandable; unique X2 transceivers might increase sparing costs; no IPv6 support.

The Breakdown

L2 switching performance	15%	5	Scoring Key: 5: Exceptional. 4: Very good. 3: Average. 2: Below average. 1: Subpar or not available.
L3 switching performance	15%	5	
VLAN switching performance	15%	5	
OSPF switching performance	15%	5	
Security	20%	5	
Features	20%	3.75	
Total score		4.75	

Software Options

Cisco Catalyst 4900 Series switches can be purchased with the IP Base (formerly called SMI) or Enterprise Services (formerly called EMI) licenses, and can be upgraded in the field to Advanced IP Services licenses.

- The IP Base license offers advanced QoS, rate-limiting, access control lists (ACLs), Internet Group Management Protocol (IGMP) Snooping, and routing functionality such as Routing Information Protocol (RIP), static routing, and EIGRP Stub.
- The Enterprise Services Software license additionally supports OSPF, Intermediate System-to-Intermediate System (IS-IS) Protocol, EIGRP, BGP, AppleTalk, and Internetwork Packet Exchange (IPX) software routing. Also includes all IP Base Image features.

Product Availability

Shipping worldwide, no restrictions.

Pricing Information

<http://www.cisco.com/cgi-bin/front.x/pricing?Request=Home>

Ordering Information

Table 1. Cisco Catalyst 4900 Series Switches

Part Number	Description
WS-C4948	48 10/100/1000 ports + 4 SFP ports with no power supply; optional image
WS-C4948-S	48 10/100/1000 ports + 4 SFP ports with 1 AC power supply; IP Base Image
WS-C4948-E	48 10/100/1000 ports + 4 SFP ports with 1 AC power supply; Enterprise Services Image
WS-C4948-10GE	48 10/100/1000 ports + 2 10 Gigabit Ethernet (X2) optic ports with no power supply; optional image
WS-C4948-10GE-S	48 10/100/1000 ports + 2 10 Gigabit Ethernet (X2) optic ports with 1 AC power supply; IP Base Image
WS-C4948-10GE-E	48 10/100/1000 ports + 2 10 Gigabit Ethernet (X2) optic ports with 1 AC power supply; Enterprise Services Image

For More Information

<http://www.in.cisco.com/esg/gsbu/c4900/>