

Cisco Catalyst 4500E Series Switch

PB619765

Cisco is announcing the Cisco® Catalyst® 4500E Series, an enterprise-class borderless network access and aggregation switch, with 848 Gbps of bandwidth per system. This enterprise-class switch is the first Cisco Catalyst switch at 48 Gbps per slot, providing flexible NetFlow and advanced security, combined with reduced total cost of ownership (TCO) and excellent investment protection to facilitate a borderless user experience for enterprise, public sector, midmarket, and commercial customers deploying business-critical applications.

The latest Cisco Catalyst 4500E Series, including the new Cisco Catalyst 4500 Supervisor Engine 7-E, two new E-Series line cards, and two new E-Series chassis, is a next-generation extension to the rapidly growing 4500E Series installed base and an addition to widely deployed the Cisco Catalyst 4000 and 4500 Series of switches.

The latest Cisco Catalyst 4500E Series system is enabled by the Supervisor Engine 7-E, which enables borderless performance at 848 Gbps per system, higher scalability, and services along with reduced total cost of ownership and superior investment protection. The enterprise-class modular Cisco Catalyst 4500E Series offers the following:

- Performance/Scalability
 - Nonblocking 48 Gbps/slot and total system bandwidth of 848 Gbps with the new Supervisor Engine 7-E, ready with four Gigabit Ethernet/10 Gigabit Ethernet (GbE/10GbE) uplinks
 - Power over Ethernet (PoE) scalability for the next-generation workspace with nonblocking 48p 10/100/1000 PoEP line card and highly efficient 6000W power supply with real current monitoring and remote power cycle capability
 - High densities of up to 384 ports of 10/100/1000, 192 ports of GbE Small Form-Factor Pluggable (SFP), or 96 ports of 10GbE SFP+
 - Scalable routing (IPv4, IPv6, and multicast) tables, Layer 2 tables, and access control list (ACL) and quality of service (QoS) entries to help ensure 8 queues per port and comprehensive security policies per port
- Infrastructure services
 - Cisco IOS® XE Software, the modular open application platform for virtualized borderless services with the full feature set of Cisco IOS Software Release 15.0SG
 - Maximum resiliency with redundant components, Nonstop Forwarding/Stateful Switchover (NSF/SSO) and In-Service Software Upgrade (ISSU) support
 - Network virtualization through multi-VRF technology for Layer 3 segmentation
 - Automation through Embedded Event Manager (EEM), Cisco Smart Call Home, AutoQoS, and Auto SmartPorts for fast provisioning, diagnosis, and reporting
- Borderless services
 - Optimized application performance through deep visibility with flexible NetFlow supporting rich Layer 2/3/4 information (MAC, VLAN, TCP flags) and synthetic traffic monitoring with IP service-level agreements (SLAs)
 - Medianet capabilities to simplify video quality of service, monitoring, and security

- Energy-efficient design with Cisco EnergyWise technology to manage the network, PoEP endpoints, and PCs
- Investment protection and reduced TCO
 - Full backward compatibility for Supervisor Engine 7-E with 6 Gbps, 24 Gbps, and 48 Gbps/slot line card support
 - LAN Base, IP Base, and Enterprise Services software options for base, standard, and advanced borderless services deployments and pay-as-you-grow licensing model
 - Limited lifetime warranty with free software update policy on LAN Base and IP Base
 - Full set of Cisco and partner support options

Components of Premium Borderless Network Cisco Catalyst 4500E Series

- Cisco Catalyst 4500E Supervisor Engine 7-E
- Cisco Catalyst 4500E 10/100/1000 line rate PoEP line card
- Cisco Catalyst 4500E 12-port 10GbE fiber line card
- Cisco Catalyst 4500E Redundant Chassis

Cisco Catalyst 4500E Supervisor Engine 7-E

The Cisco Catalyst 4500E Supervisor Engine 7-E (Figure 1) is the first Cisco Catalyst switch supervisor engine to provide 48 Gbps bandwidth per slot and flexible NetFlow for application intelligence.

Figure 1. Cisco Catalyst 4500E Supervisor Engine 7-E



Primary Supervisor Engine 7-E features include:

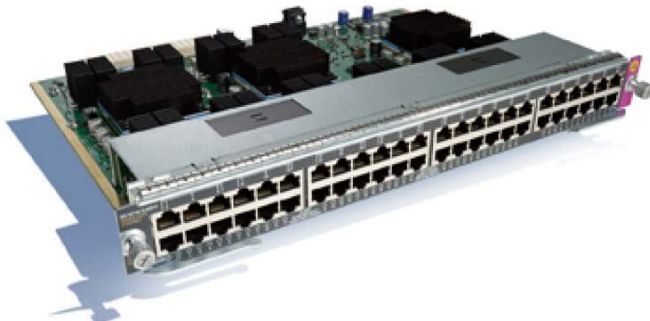
- 848 Gbps switching capacity with 250 Mpps of throughput
- 4 10 Gigabit Ethernet uplinks (SFP+)
- SFP support on uplinks to offer flexibility for up to 4 Gigabit Ethernet
- 128K flexible NetFlow entries in hardware
- External USB and SD card support for flexible storage options
- Flexibility to operate at 6, 24 or 48 Gbps per line card slot with no performance degradation
- IPv6 support in hardware, providing wire-rate forwarding for IPv6 networks
- Dynamic hardware forwarding-table allocations for ease of IPv4-to-IPv6 migration

Cisco Catalyst 4500E Series Line Cards

The Cisco Catalyst 4500E Series line cards (Figure 2) include the following options:

- 48-port line rate 10/100/1000 E-Series PoEP line card
- 12-port 10 Gigabit Ethernet E-Series line card with SFP+ optics (2.5:1 oversubscribed)

Figure 2. Cisco Catalyst 4500E Series Line Card



The Cisco Catalyst 4500E 48-port line rate 10/100/1000 PoEP supports the following:

- PoEP (30W) on all ports simultaneously
- Security through IEEE 802.1ae Linksec encryption for confidentiality, identity mechanisms for authentication
- Jumbo frames for various applications
- Energy efficient line card with 20 percent lower power consumption compared to predecessors

The Cisco Catalyst 4500E 12-port 10 Gigabit Ethernet SFP+ (Figure 3) supports the following:

- 10GbE port density of up to 100 ports for enterprise aggregation deployments
- Security through IEEE 802.1ae Linksec encryption for confidentiality, identity
- Flexibility for GbE aggregation with SFP support
- Most power-efficient 10GbE aggregation line card with lowest power per 10GbE port

Figure 3. Cisco Catalyst 4500E 12-Port 10GbE SFP+



For more information, refer to the Cisco Catalyst 4500 Line Card data sheet at

http://www.cisco.com/en/US/prod/collateral/modules/ps2710/ps5494/product_data_sheet0900aecd802109ea_ps4324_Products_Data_Sheet.html

Cisco Catalyst 4500E Redundant Chassis

The Cisco Catalyst 4500E Series consists of two new redundant chassis models, 7-slot and 10-slot (Figure 4), providing 48 Gbps bandwidth per slot. These new redundant chassis supports all E-Series supervisor engines, Supervisor Engine V with 10GbE, and E-Series line cards in addition to all currently shipping classic line cards and Cisco Catalyst 4500 power supplies for investment protection. The 10-slot redundant chassis allows same speed

operation on all line card slots. The Cisco Catalyst 4500E Series chassis supports classic and E-Series line cards with no effect on performance if slot speeds are mixed in the same chassis.

Figure 4. Cisco Catalyst 4500E Redundant Chassis



For more information, refer to the Cisco Catalyst 4500 Chassis data sheet at

http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps4324/product_data_sheet0900aecd801792b1.html

Ordering Information

Table 1 provides ordering information.

Table 1. Ordering Information for Cisco Catalyst 4500E Series

Product ID	Description
WS-X45-SUP7-E	Cisco Catalyst 4500E Series Supervisor, 848 Gbps
WS-X4748-RJ45V+E	Cisco Catalyst 4500E 48-Port PoE 802.3at 10/100/1000 (RJ45)
WS-X4712-SFP+E	Cisco Catalyst 4500E Series 12-Port 10GbE (SFP+)
WS-C4507R+E	Cisco Catalyst 4500E 7-slot chassis for 48 Gbps/slot
WS-C4510R+E	Cisco Catalyst 4500E 10-slot chassis for 48 Gbps/slot
BN-CF2-SBA+K9	4500 Core Foundation Bundle - R+E chassis
WS-C4507RES6L+96V+	4507R+E Chassis, two WS-X4648-RJ45V+E, Sup6L-E
WS-C4510RE-S7+96V+q	4510R+E Chassis, two WS-X4748-RJ45V+E, Sup7-E
S45U-31-01XO	Universal Software image for Supervisor 7-E
S45UK9-31-01XO	Universal SSH Software image for Supervisor 7-E
L-C4500E-LB-IP=	C4500E SUP7-E LAN Base to IP Base E-License
L-C4500E-IP-ES=	C4500E SUP7-E IP Base to Enterprise Services E-License
L-C4500E-LB-ES=	C4500E SUP7-E LAN Base to Enterprise Services E-License
MEM-X45-2GB-E	Cisco Catalyst 4500 2GB SD Memory Card for Sup7-E
USB-X4GB-E	Cisco Catalyst 4500 4GB USB device for Sup7-E

For additional information, visit:

- **Cisco Catalyst 4500 Series homepage:**
<http://www.cisco.com/en/US/products/hw/switches/ps4324/index.html>
- **Cisco Catalyst 4500 Series data sheet:**
http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps4324/product_data_sheet09186a008033a3bd.html
- **Cisco Catalyst 4500 Series Supervisor Engine 7-E data sheet:**
http://www.cisco.com/en/US/products/hw/switches/ps4324/products_data_sheets_list.html.

- **Cisco Catalyst 4500 Series Line Card data sheet:**
http://www.cisco.com/en/US/prod/collateral/modules/ps2710/ps5494/product_data_sheet0900aec802109ea_ps4324_Products_Data_Sheet.html
- **Cisco Catalyst 4500 Series Chassis data sheet:**
http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps4324/product_data_sheet0900aec801792b1.html
- **Cisco Catalyst 4500E Series Q&A:**
http://www.cisco.com/en/US/prod/collateral/switches/ps5718/ps4324/prod_qas0900aec806d8b06.html

Lower Operating Expenditures While Improving Network Availability with CiscoWorks LAN Management Solution

CiscoWorks LAN Management Solution (LMS) is an integrated suite of management tools that simplify the configuration, administration, monitoring, and troubleshooting of Cisco networks. Built upon popular Internet-based standards, CiscoWorks LMS enables network operators to manage the network through a browser-based interface that can be accessed any time from anywhere within the network. CiscoWorks LMS maintains a centralized list of all Cisco network devices and their credentials that serves as a single repository for all CiscoWorks applications, whether they are installed locally or distributed in a multiserver deployment. CiscoWorks LMS Portal provides functional views that can be customized to meet the needs of an individual or group of network operations staff, simplifying integration and navigation between Cisco and other third-party application functionality. CiscoWorks support is now available for the Cisco Catalyst 4500E Series platforms, simplifying the deployment, configuration, and day-to-day management of these platforms and the services they provide.

For more information on CiscoWorks LMS, go to <http://www.cisco.com/go/lms>.

Enhance Operational Manageability with Cisco NAM 2200 Series Appliances

The Cisco NAM 2200 Series Appliance provides comprehensive operational visibility into Cisco Catalyst 4500 Series switch deployments. It combines application performance visibility, traffic analysis, and troubleshooting to enable network administrators to effectively manage delivery of converged network services. The visibility provided by NAM allows IT to deliver a consistent end-user experience and improve service levels. It also helps to optimize resources with comprehensive analysis of traffic and effective use of intelligent network services such as QoS and Cisco WAAS. In addition, Cisco NAM improves operational efficiency with proactive detection of performance issues and accelerated problem isolation and root-cause analysis.

For more information on Cisco NAM, visit <http://www.cisco.com/go/nam>.

Service and Support

Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco Services help you protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business. For more information about Cisco Services, refer to Cisco Technical Support Services or Cisco Advanced Services.

For More Information

For more information about the Cisco Catalyst 4500 Series, visit <http://www.cisco.com/en/US/products/hw/switches/ps4324/index.html>.

For additional information about Cisco products, contact:

- United States and Canada: (toll free) 800 553-NETS (6387)
- Europe: 32 2 778 4242



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